6325

WEEKLY WEATHER AND CROP BULLETIN

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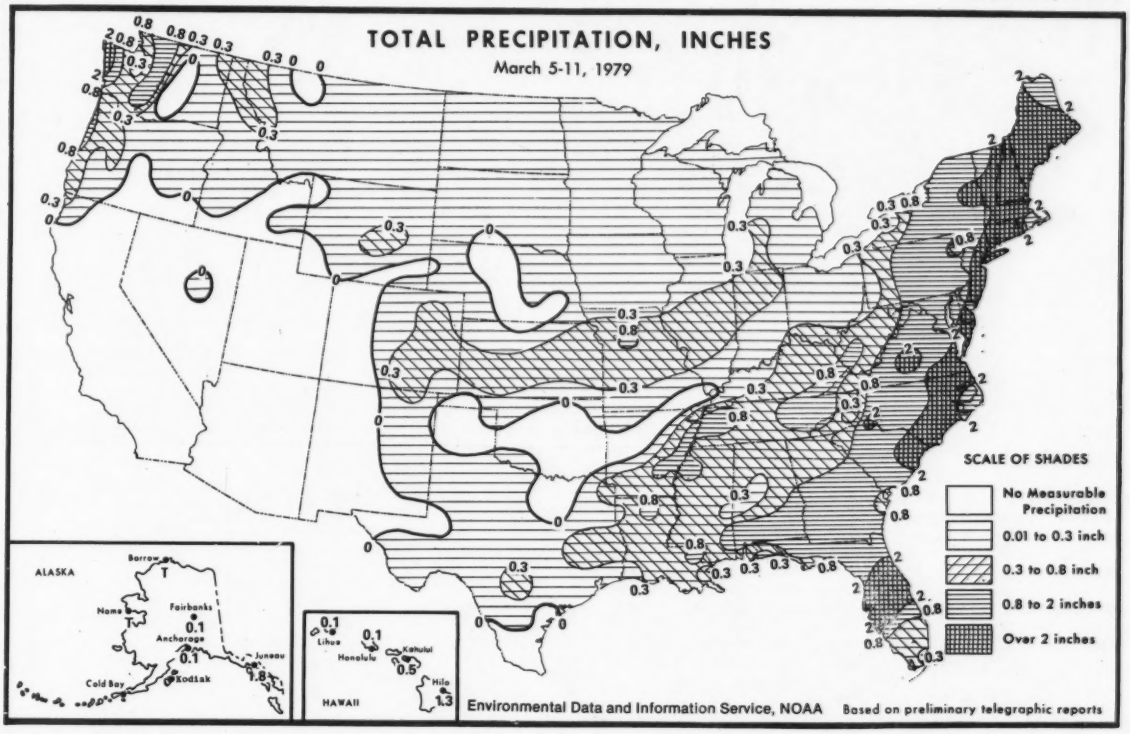


National Weather Summary

March 5 - 11

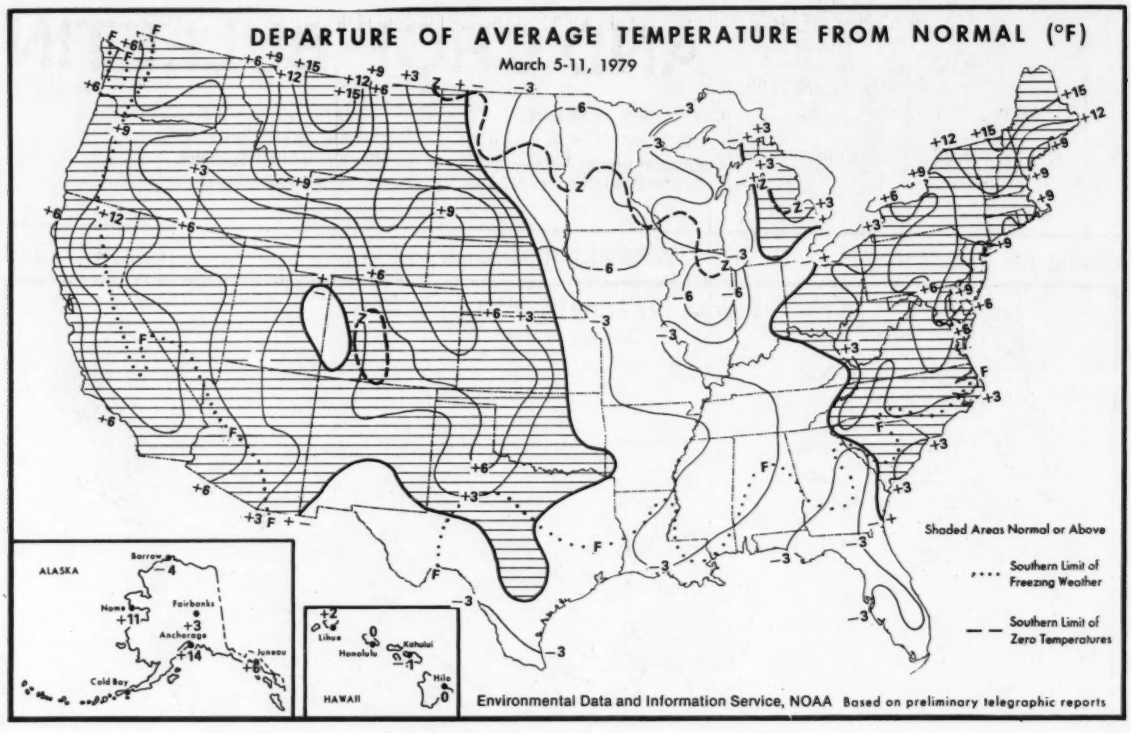
HIGHLIGHTS: Much of the Nation recorded warmer than normal temperatures during the week. Average readings ranged warmer than normal from the western portions of the Plains to the West Coast. The east slopes of the Rockies were as much as 15 degrees above what is expected this time of year; the central slopes rose 10 degrees above the normal. Central California averaged 9 to 10 degrees warmer than expected this time of year. The area from Minnesota to Florida was cooler than the average by 4 to 7 degrees.

Significant precipitation was generally confined to the region from the lower Mississippi Valley to New England and westward to the Pacific Northwest.

On Monday, a nearly stationary front produced rain along the entire Atlantic Coast. Flooding hit northeastern Alabama and south central North Carolina, where 4 inches of rain drenched Gaston County. Stations from Florida northward to Virginia scored 1 to 2 inches. Two tornadoes touched down in North Carolina. Rain also fell in the Pacific Northwest; nearly an inch dampened Quillayute, western Washington.

Rain persisted along the East Coast on Tuesday. One to 2 inches soaked many points from North Carolina to Massachusetts; localized flooding continued. Lowland flooding also hit the central Plains when warming temperatures melted snow.

Rain persisted in the northern Atlantic States, but moved off the coast on Wednesday. Half-inch rainfalls dotted much of New England. As much as



one-half inch of rain also fell on portions of the Ohio Valley and Deep South.

Ice jams and snowmelt contributed to lowland flooding in the Ohio Valley and central Plains.

Cold air moved across the north central States into the middle Mississippi and lower Ohio Valleys. The Southwest reported readings in the 80's and low 90's.

On Thursday, rain still fell on northern New England, with Eastport, Maine, collecting an inch and one-half. Light rain dampened sections of Florida, North Carolina, and eastern Kansas.

A frontal system across the northern half of the Plains spread snow from Wyoming to lower Michigan. Casper, central Wyoming, gathered 5 inches of snow; Sioux Falls, eastern South Dakota, notched 4 inches; and Marquette, on Michigan's Peninsula, managed 3 inches.

On Friday, frontal systems extending over the southern Plains and upper Mississippi Valley combined to spread snow and rain from the Plains to the Great Lakes.

Kansas City and Springfield, Ill., measured 3 inches of snow. Melting snow helped push some portions of the Mississippi River over its banks. One-half to three-quarters inch of rain fell from the Delta Region to the Ohio Valley.

Very warm temperatures covered South Texas and the western parts of the Pacific Northwest; Medford, southwestern Oregon, at 76°, tallied its highest temperature ever this early in the year.

On Saturday, rain fell in an area from the Gulf of Mexico up the Atlantic Coast to New England. Many stations reported one-half to one inch accumulations. The western mountains of Maine noted 3 to 5 inches of snow.

Meantime, some light snow and rain dotted the southern half of the Plains.

Temperatures warmed considerably in the Pacific Northwest; Seattle hit a record high 68°. Olympia, at 73°, not only established a new high but scored its highest temperature ever this early in the year.

Rain continued along the Atlantic Coastal States early Sunday, but amounts rarely reached three-quarters inch. Light snow fell in the West Virginia mountains and over parts of Maine. Other areas of rain included sections of Texas and the Pacific Northwest.

The Nation's coldest air chilled the Great Lakes and upper Midwest. Chicago's -3° undercut the former low record set in 1948.

National Agricultural Summary

March 5 - 11

HIGHLIGHTS: Below-normal temperatures, varying amounts of precipitation, and some snowcover kept fields in the Corn Belt wet and soggy. In the Southeast, where some fieldwork had previously begun, planting progress remained slow and was mainly limited to well-drained fields across the southernmost States. Snowcover generally had receded to the northern portions of Illinois, Iowa, Nebraska, Ohio and northward. Rains were heaviest on the East Coast bringing delays to early vegetable harvest and shipments in Florida. Western temperatures ranged above normal which helped provide good lambing and calving conditions. Northern farmers applied commercial fertilizer to fields and hauled some manure. Winter wheat rated fair to good throughout most major producing areas. Some wheat was jointing across the South, while Kansas wheat was greening up but remained very short. Moderating temperatures improved pasture growth, but they still generally rated as fair to poor. Deciduous orchard maintenance extended northward into Indiana and New Jersey. Peaches bloomed in Georgia and Texas. Vegetable activity still centered in southern areas.

SMALL GRAINS: Winter wheat rated fair to good. Snowcover receded substantially during the week. Kansas wheat was greening up but remained very short. Ohio wheat broke dormancy; however, no growth was evident. In southern Texas, wheat showed good growth under favorable temperatures. However, parts of the northern Plains of Texas were short of moisture, although stands greened up. Insect damage was minimal.

Barley planting stood at 5% in Kansas compared with zero last year and the 15% average. Kansas oat planting was 2% complete, compared with zero last year and the 25% average. Oats and barley rated fair to good in Oklahoma. Spring grain seedbed preparation was 15-20% complete in Oklahoma. Spring fertilization of small grains was common throughout most areas of the Nation.

OTHER CROPS: Cotton planting hit full swing in the lower Rio Grande Valley with good stands in early planted fields. However, low soil temperatures delayed planting in Coastal Bend and upper Gulf Coast areas. Land preparation stayed on schedule in the High and Low Plains, but behind normal in the Blacklands. Cotton preirrigation continued in California's San Joaquin Valley, and cotton planting hit full swing in Riverside County. In Arizona, cotton land preparation advanced actively. Planting increased in the Yuma area with about 5% planted. Picking, rodding, and residue disposal was active on the remaining old crop acreage.

Corn planting reached 2% in Mississippi and 6% in Texas.

Texas sorghum planting continued in the lower Rio Grande Valley with early-planted fields up to good stands. Planting was 15% complete compared with 9% last year and the 14% average.

Temperature fluctuations in Ohio gave excellent maple sirup flow.

Irish potato planting continued in many areas of the country. Mississippi reported plantings at 13%, while Alabama and North Carolina stated plantings were just getting underway. Louisiana reported potato plantings behind normal.

Tobacco bed preparations were underway; however, progress was generally hampered by wet conditions.

FRUITS AND NUTS: Deciduous fruit producers pruned and sprayed trees where weather conditions permitted. This included the Northwest, the South, and eastern areas as far north as Indiana and New Jersey. Fruit has started to bloom in New Mexico, while Georgia reported that peaches were in bloom. Peach trees throughout South Texas and along the upper Gulf Coast neared full bloom. Buds on North and East Texas peach trees have begun to swell with a few early varieties blooming.

Florida citrus tree conditions and moisture levels continued to be excellent. New growth is making excellent progress. Bloom got underway with a few open flowers. Early and mid-orange harvest continued slow. In California, almonds, apricots, nectarines, peaches, and plums reached full bloom. Movement continued on lemon. Navel oranges, and tangelos.

VEGETABLES: Vegetable activities centered mostly in the extreme southern areas of the Nation, but some greens were harvested in the Atlantic Coast States. In New Mexico, lettuce and onions were doing well. Arizona lettuce harvest hit full swing in the Yuma area. Late lettuce in central and eastern areas spanned all stages. Harvest also progressed on cauliflower, cabbage, broccoli, and carrots. Harvest of winter vegetables neared completion. California producers harvested artichoke, asparagus, broccoli, cauliflower, and celery. Lettuce harvest was light in Palo Verde Valley but still active in the Imperial Valley. In the lower Rio Grande Valley, cabbage, carrot, and lettuce harvests moved actively. In Florida, overall vegetable crop condition was fair to very good, with some area reports showing excellent conditions. Growth progress slowed in some areas last week as a cold front moved through. Some young plants in west central areas were damaged by rains. Light windburn damage was evident in the Southwest. Florida supplies of snap beans, celery, sweet corn, lettuce, okra, parsley, and radishes increased while chinese cabbage, cucumbers, eggplant, escarole, peppers, and potatoes held steady.

PASTURE AND LIVESTOCK: Grasses began greening as far north as the southern Corn Belt. Growth was limited in most areas of the Nation by low temperatures or extremely wet fields. Most areas rated pastures as fair to poor. Livestock producers reported cattle on full feed with supplies adequate until spring pastures are available. Only Wyoming reported possible shortages of hay supplies. Cattle rated fair to good throughout the Nation. Calving and lambing were active throughout all areas. Sheep shearing had begun in some western States. Muddy conditions generally prevented cattle from moving onto pastures and ranges.

Temperature and Precipitation Data for the Week Ending Midnight, l.s.t., March 11, 1979

States and Stations	Temperature °F Average	Temperature °F Departure	Precipitation Inches Total	Precipitation Inches Departure
ALA.Birmingham. . .	47	- 4	.2	- 1.3
Mobile.	55	- 2	.5	- 1.1
Montgomery. . . .	53	- 1	.7	- .7
ALASKA.Anchorage. .	35	+14	.1	0
Barrow.	-22	- 4	T	0
Fairbanks	8	+ 3	.1	0
Juneau.	37	+ 6	1.8	+ 1.0
Kodiak.	--	--	--	--
Nome.	17	+ 11	T	- .2
ARIZ.Flagstaff. . .	38	+ 5	0	- .4
Phoenix	64	+ 6	T	- .2
Tucson.	60	+ 4	0	- .1
Winslow	44	+ 1	0	- .1
Yuma.	69	+ 7	0	- .1
ARK.Fort Smith. . .	46	- 1	T	- .8
Little Rock . . .	48	0	.1	- 1.0
CALIF.Bakersfield .	65	+10	0	- .2
Eureka.	53	+ 5	T	- 1.2
Fresno.	63	+10	0	- .4
Los Angeles . . .	65	+ 6	0	- .6
Red Bluff	64	+12	0	- .6
San Diego	65	+ 7	0	- .4
San Francisco . .	58	+ 5	T	- .6
Stockton.	60	+ 8	0	- .5
COLO.Denver	42	+ 7	.2	0
Grand Junction. .	37	- 2	T	- .1
Pueblo.	42	+ 4	.4	+ .3
CONN.Bridgeport . .	45	+10	3.3	+ 2.5
Hartford.	42	+ 9	3.7	+ 2.9
D.C.Washington. . .	51	+ 9	1.1	+ .3
FLA.Apalachicola. .	55	- 4	.4	- .7
Daytona Beach . .	62	0	4.0	+ 3.2
Ft. Myers	66	- 1	.4	- .3
Jacksonville. . .	58	- 1	.8	0
Key West.	72	- 2	.8	+ .4
Lakeland.	--	--	--	--
Miami	68	- 2	.3	- .1
Orlando	61	- 4	2.8	+ 2.0
Tallahassee . . .	54	- 4	1.0	- .4
Tampa	61	- 4	2.1	+ 1.2
W.Palm Beach. . .	66	- 3	.7	0
GA.Atlanta.	48	- 1	.2	- 1.1
Augusta	48	- 4	.8	- .3
Macon	52	- 2	1.0	- .2
Savannah.	58	+ 2	.6	- .4
HAWAII.Hilo	71	0	1.3	- 1.9
Honolulu.	73	0	.1	- .7
Kahului	71	- 1	.5	- .2
Lihue	73	+ 2	.1	- 1.0
IDAHO.Boise	42	+ 3	T	- .3
Lewiston.	48	+ 7	T	- .2
Pocatello	35	+ 2	T	- .2
ILL.Cairo	40	- 5	0	- 1.1
Chicago	27	- 7	.2	- .3
Moline.	27	- 5	.2	- .3
Peoria.	28	- 6	.7	+ .2
Rockford.	25	- 6	.1	- .4
Springfield . . .	30	- 6	.6	+ .1
IND.Evansville. . .	39	- 2	.1	- .9
Ft. Wayne	33	0	.3	- .3
Indianapolis. . .	34	- 3	.1	- .7
South Bend. . . .	32	0	.5	0
IOWA.Burlington . .	29	- 4	.1	- .4
Des Moines. . . .	25	- 5	T	- .5
Dubuque	23	- 5	T	- .6
Sioux City. . . .	22	- 7	.1	- .2
KANS.Concordia. . .	38	+ 2	.2	- .1
Dodge City. . . .	46	+ 7	.4	+ .2
Goodland.	43	+ 9	.2	0
Topeka.	36	- 2	.4	0
Wichita	47	+ 6	.2	- .1
KY.Lexington. . . .	40	- 1	.4	- .7
Louisville. . . .	40	- 1	.1	- 1.0
LA.Baton Rouge. . .	54	- 4	.7	- .5
Lake Charles. . .	55	- 3	.1	- .8
New Orleans . . .	57	- 2	.3	- 1.0
Shreveport. . . .	54	- 1	.2	- .7
MAINE.Caribou . . .	36	+16	1.9	+ 1.4
Portland.	37	+ 8	3.1	+ 2.3
MD.Baltimore. . . .	49	+ 9	1.2	+ .4
MASS.Boston	46	+11	2.1	+ 1.2
Chatham	41	--	.9	--
MICH.Alpena	26	+ 3	.2	- .2
Detroit	31	- 1	.3	- .2
Flint	32	+ 3	.2	- .2
Grand Rapids. . .	30	0	.3	- .2
Houghton Lake . .	26	+ 3	.3	- .1
Lansing	32	+ 2	.2	- .3
Marquette	17	- 2	.2	- .2
Muskegon.	28	- 2	.4	- .1
S. Ste. Marie . .	25	+ 4	.2	- .2
MINN.Duluth	17	- 3	.3	0
Internatl Falls .	11	- 5	.1	- .1
Minneapolis . . .	20	- 4	.1	- .3
Rochester	16	- 8	T	- .3
St. Cloud	15	- 7	.1	- .2
MISS.Jackson. . . .	50	- 4	.5	- .8
Meridian.	49	- 5	.3	- 1.1
MO.Columbia	35	- 4	.4	- .1
Kansas City . . .	36	- 2	.3	- .2
St. Louis	38	- 2	.3	- .3
Springfield . . .	37	- 4	.1	- .5
MONT.Billings . . .	41	+11	.1	- .2
Glasgow	24	+ 3	T	- .1
Great Falls . . .	44	+16	.1	- .1
Havre	39	+16	.1	0
Helena.	39	+11	T	- .1
Kalispell	34	+ 6	.3	+ .1
Miles City. . . .	32	+ 5	T	- .1
Missoula.	35	+ 4	.3	+ .2
NEBR.Grand Island .	33	+ 1	T	- .2
Lincoln	33	0	T	- .3
Norfolk	27	- 2	.1	- .2
N.Platte.	38	+ 6	T	- .2
Omaha	27	- 4	.1	- .2
Valentine	34	+ 6	T	- .1
NEV.Ely	37	+ 6	0	- .2
Las Vegas	60	+ 7	0	- .1
Reno.	48	+ 9	0	- .2
Winnemucca. . . .	45	+ 9	T	- .2
N.H.Concord	41	+12	2.2	+ 1.6
N.J.Atlantic City .	45	+ 7	3.2	+ 2.2
Trenton	47	+ 9	2.0	+ 1.2
N.MEX.Albuquerque .	47	+ 3	0	- .1
Roswell	47	0	T	- .1
N.Y.Albany.	40	+10	.8	+ .2
Binghamton. . . .	36	+ 8	1.7	+ 1.1
Buffalo	35	+ 6	.2	- .4
New York.	44	+ 6	3.2	+ 2.3
Rochester	35	+ 5	.4	- .2
Syracuse.	36	+ 6	1.1	+ .4
N.C.Asheville . . .	47	+ 4	.3	- .8
Charlotte	51	+ 3	1.3	+ .2
Greensboro. . . .	49	+ 4	1.3	+ .5
Hatteras.	52	+ 3	1.0	+ .1
Raleigh	52	+ 5	1.1	+ .3
Wilmington. . . .	53	+ 1	2.8	+ 1.8
N.DAK.Bismarck. . .	20	- 1	.1	0
Fargo	12	- 8	.1	0
Williston	22	+ 1	T	- .1
OHIO.Akron-Canton .	36	+ 3	.1	- .6
Cincinnati. . . .	42	+ 3	.3	- .6
Cleveland	36	+ 3	.1	- .5
Columbus.	37	+ 1	.1	- .6
Dayton.	36	0	.1	- .6
Toledo.	31	- 2	.3	- .2
Youngstown. . . .	34	+ 2	.2	- .5
OKLA.Okla. City . .	47	+ 2	T	- .4
Tulsa	45	0	T	- .5
OREG.Astoria. . . .	50	+ 6	.4	- 1.2
Burns	39	+ 5	.1	- .1
Medford	52	+ 8	T	- .4
Pendleton	48	+ 6	.2	0
Portland.	53	+ 8	.3	- .6
Salem	52	+ 8	.3	- .8
PA.Allentown. . . .	44	+ 9	1.0	+ .2
Erie.	32	+ 2	.3	- .3
Harrisburg. . . .	44	+ 6	1.0	+ .3
Philadelphia. . .	48	+ 9	1.5	+ .7
Pittsburgh. . . .	38	+ 3	.2	- .6
Scranton.	40	+ 7	.8	+ .2
R.I. Providence . .	44	+10	1.6	+ .7
S.C. Charleston . .	57	+ 3	1.6	+ .5
Columbia.	53	+ 1	1.1	0
Greenville. . . .	51	+ 3	.4	- .8
S.D. Aberdeen . . .	17	- 6	.1	- .1
Huron	21	- 4	.1	- .1
Rapid City. . . .	37	+ 9	.1	- .1
Sioux Falls . . .	21	- 5	.3	0
TENN.Chattanooga. .	45	- 2	.5	- .8
Knoxville	46	- 1	1.0	- .2
Memphis	46	- 2	.7	- .4
Nashville	42	- 4	.6	- .6
TEX.Abilene	54	+ 2	T	- .2
Amarillo.	46	+ 3	0	- .1
Austin.	58	+ 1	.2	- .2
Beaumont.	58	0	.1	- .6
Brownsville . . .	62	- 4	0	- .2
Corpus Christi. .	62	- 1	T	- .3
Del Rio	58	- 2	.2	+ .1
El Paso	51	- 1	T	- .1
Fort Worth. . . .	54	+ 1	0	- .5
Galveston	59	0	T	- .6
Houston	58	- 1	.1	- .5
Lubbock	51	+ 5	.1	- .1
Midland	52	0	T	- .1
San Angelo. . . .	54	- 1	T	- .2
San Antonio . . .	60	+ 1	.4	0
Victoria.	60	0	T	- .4
Waco.	54	- 1	T	- .5
Wichita Falls . .	53	+ 3	T	- .3
UTAH.Blanding . . .	37	+ 1	0	- .2
Salt Lake City. .	42	+ 5	T	- .4
VT.Burlington . . .	38	+13	1.6	+ 1.2
VA.Lynchburg. . . .	48	+ 5	2.3	+ 1.5
Norfolk	50	+ 4	3.4	+ 2.6
Richmond.	52	+ 8	1.0	+ .2
Roanoke	46	+ 3	.9	+ .1
WASH.Colville . . .	39	+ 4	.3	0
Omak.	41	+ 5	0	- .2
Quillayute. . . .	46	+ 4	2.4	- .2
Seattle-Tacoma. .	51	+ 8	.2	- .7
Spokane	42	+ 6	.1	- .3
Walla Walla . . .	51	+ 7	.3	0
Yakima.	45	+ 5	0	- .1
W.VA.Beckley. . . .	41	+ 4	.4	- .6
Charleston. . . .	47	+ 5	.8	- .1
Huntington. . . .	43	+ 2	.5	- .4
Parkersburg . . .	40	0	.1	- .7
WISC.Green Bay. . .	22	- 3	.2	- .1
La Crosse	26	- 1	T	- .4
Madison	26	- 1	.1	- .3
Milwaukee	27	- 1	.1	- .3
WYO.Casper.	35	+ 6	.4	+ .2
Cheyenne.	39	+ 9	.1	- .1
Lander.	31	+ 2	.1	- .1
Sheridan.	35	+ 6	.1	- .1
P.R.San Juan. . . .	77	+ 1	.5	0

Based on 1941-70 normals

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State Summaries of Weather and Agriculture

These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by ESCS State offices in cooperation with the National Weather Service.

ALABAMA: Temperatures averaged about 5° below normal for the week. Showers occurred over the east half 7th through 9th. Rain fell 10th with amounts up to 1.00 in.

Fieldwork behind schedule. Soil moisture adequate to surplus. Plowing 30% complete. Potato and vegetable planting underway. Pastures poor to fair. Wheat and livestock fair.

ARIZONA: Warm, dry statewide. Temperatures 1 to 7° above normal. Few showers, no measurable precipitation.

Land preparations new cotton crop full swing. Planting increasing Yuma area with about 5% planted. Picking, rodding, residue disposal active remaining old crop, rapidly winding down. Planting small grains complete, emergence good, early fields growing well, most past jointing. Few heads developing. Land preparations well advanced corn, sorghum, safflower. Sugarbeets, good progress. Alfalfa activity increasing. First cutting complete Yuma, underway central areas. Harvest lettuce full swing Yuma area. Later lettuce central, eastern areas all stages. Harvest cauliflower, cabbage, broccoli, carrots, miscellaneous vegetables good progress. Harvest winter vegetables near completion. Planting warm weather crops, melons, etc. excellent progress. Citrus harvest good progress. Groves flushed new growth. Drying weather boosting feed growth. Cattle, calves good to excellent condition. Calving full swing. Soil moisture, stock water adequate.

ARKANSAS: Cool and dry week. Lowest temperature 17°; highest 78°. Lowest normal 47°; highest 54°. Means averaged several degrees below normal. Lowest mean 41°; highest 53°. Means ranged from -7° to -1°. Precipitation light, with many areas receiving none or only a trace. Most precipitation, 1.18 in.

No fieldwork in eastern portion of State. Nitrogen-top dressing being applied on small grains, fescue, and rye grass. Cattle continue on full feed. Hay supply generally adequate in most areas. Fruit prospects good for full crop.

CALIFORNIA: A weak weather front at the first of the period brought light precipitation to northern half. Otherwise the remainder of the period was dominated by spring-like weather. A high pressure area brought abundant sunshine with temperatures averaging above to much-above normal for this time of year. Daytime temperatures warmed to the 70's and 80's over a large area in the latter half of week. The only exception to the mild weather was in the extreme northern part where the temperatures remained about normal.

Small grain Sacramento Valley stress past inclement weather. Growth grains good. Irrigation active and fertilization San Joaquin, Sacramento Valleys. Alfalfa planting continued San Joaquin Valley. South coast, Sacramento, San Joaquin Valleys good alfalfa growth. Cutting active Imperial Valley. Weed and rodent control continued San Joaquin Valley and south coast. Sugarbeet planting San Joaquin Valley, Riverside County. Weed control underway San Joaquin Valley. Cotton preirrigation continued San Joaquin Valley. Cotton planting in full swing Riverside County. Almonds, apricots, nectarines, peaches, and plums in bloom. Lemon, Navel orange, and Minneola tangelo movement continued. Artichoke harvest increasing central coast. Asparagus cutting slow Delta District but increased rapidly. Broccoli heavy central coast, limited other areas. Cauliflower increasing Salinas-Watsonville. Normal celery harvest south coast, better quality. Lettuce harvest light Palo Verde Valley, still active Imperial Valley. Winter potato digging continued Kern and Riverside Counties. Cantaloup planting active west side Jan Joaquin Valley. Strawberry harvest very light south coast. Planting market and processing tomatoes active where field conditions permit. Warmer temperatures gave range grasses boost. Feeding hay stopped some areas. Calving continued northern areas. Weather ideal for bees pollinate fruit trees.

COLORADO: A cold front passed south across the eastern plains on 8th and 9th resulting in significant snowfall east of the Continental Divide with light flurries on the western side. Wet snow of 3 to 4 in. covered the ground on the eastern plains while heavier amounts of up to 1 foot fell along the foothills. Temperatures were 2 to 4° above normal for the week in east and near normal elsewhere.

FLORIDA: A cold front entered the Panhandle, 5th, passing slowly over the Peninsula through the 7th. Rainfall through midweek averaged 2.00 to 3.00 in. southeast, 1.00 to 2.00 in. elsewhere in Peninsula. Another weak cold front beginning the 8th became stationary, dissipating along the southern Peninsula on the 9th. High pressure dominated the 10th. A cold front entered the State early on the 10th and passed over the Peninsula late the 11th. Temperature highs of 70° north, 80° south occurred both early and late week. Lows of 30° north to 50° south at midweek and late on the 11th.

Soil moisture mostly adequate south, central and northern areas; excessive along upper east coast and mostly excessive western counties. Corn planting active except in wet areas. Tobacco transplanting underway. Land being prepared for planting peanuts, soybeans. Sugarcane good condition. Harvest nearing completion. Small grains fair to good. Pastures good south, poor to mostly fair other areas. Central pastures continue to progress. Winter pastures providing most of grazing in north and Panhandle. Cattle, fair to good. Citrus tree condition, moisture levels continue excellent. New growth making excellent progress. Bloom buds progressing, some open flowers, but not yet full open bloom. Early and mid orange harvest continued to slow. Overall vegetable crop conditions fair to very good, some excellent. Growth, progress slowed last week as cold front moved through growing areas. Some young plants beat by rains, sand west central area. Light windburn damage evident southwest area. Planting, other fieldwork very active. Harvest steady. Shipments down 8% from previous. Supplies snap beans, celery, sweet corn, lettuce, okra, parsley, radishes increased while chinese cabbage, cucumbers, eggplant, escarole, peppers, potatoes held steady. Shipments cabbage, carrots, cauliflower, strawberries, tomatoes decreased. Strawberry plant condition generally good. Adverse weather slowed progress. Stages of development variable, from blooming to harvest. Volume should increase. Watermelon crop fair to good. Growth rapid but slowed last week due to adverse weather. Older crop showing false bloom.

GEORGIA: Temperatures 3 to 6° above normal ranging from near 50° extreme north to 60° extreme south. Warm early in week then cooler at midweek. Rainfall heavy extreme north averaging 4.00 to 6.00 in., occurring mainly 3d and 4th. Amounts 0.50 to 1.00 in. central, and 0.25 in. or less extreme south.

Soil moisture surplus. Fieldwork curtailed due to excessive wet soil condition. Small grains fair to good north, fair central, good south. Pastures fair north and central, good south. Livestock condition ranged fair to good north, good central to fair south. Some damage fences and few cattle lost due to flooding extreme northwest portion. Peaches blooming southern area. Corn planting east and south.

HAWAII: Weather improved. More sunny days. Showers light; confined mainly higher elevations. Irrigation necessary some areas.

Spraying insects, disease control. Field preparation; planting more active. Vegetable supplies continued light. Some lettuce acreage abandoned. Banana supplies light. Papaya supplies, disease still factor; low production. Pineapple harvesting slow. Sugar harvesting increasing. Pastures generally fair to good.

IDAHO: Weather ranged from mild and wet in the north to cool and dry in the southeast. In between near normal temperatures and little precipitation.

Fields are thawing out causing sloppy conditions and limiting fieldwork. Calving and lambing quite active. Feed supplies adequate and livestock generally in fair to good condition.

ILLINOIS: Temperatures averaged 2 to 6° below normal. Precipitation light, north; 0.75 in. central; limited south. Snowfall 2 to 3 in. central; snow depth 9 in. north, 2 in. central.

Winter wheat mostly good condition, minor damage from ice, excessive moisture. Livestock fair to good condition. Feedlots hampered by mud. Road use limited to lightweight vehicles delaying livestock and grain marketings.

INDIANA: Temperatures averaged a few degrees below normal and ranged 6° northwest to 56° southwest. Sunshine averaged 40 to 60% of possible. Precipitation 0.10 to 0.20 in. south and central, 0.30 to 0.40 in. in North. Snowcover slight in northwest.

Soils thawed central and south and temperatures in 30's. In north, some frozen layers remain. Flooding in Kankankee and Wabash River Basins diminished during week. Muddy fields limited outside work including hauling manure. Activities: Shop work, readying equipment, pruning underway in orchards, caring for livestock and usual chores.

IOWA: A cold, dry week. Temperatures about 6° subnormal. Coldest mornings were on 10th and 11th. On the 10th, Spencer reported -2°. Scattered light snow fell at midweek. Snowcover continued to diminish. Southern half reported little or no snow left on the ground, while northern districts reported from 5.00 to 15.00 in. excepting the Spencer-Storm Lake area with 25.00 to 30.00 in.

KANSAS: Precipitation averaged from 0.25 in. or less northwest and southeast to 0.25 to 0.50 in. elsewhere with local amounts of 0.75 in. or greater portions of east central. Temperatures averaged from 30 to 40° northeast, north central and east central to 42 to 45° elsewhere, or 5 to 8° above normal central and western three districts to normal to 2° above normal elsewhere.

Wheat greening up, but remains very short. Feeding difficult eastern two-thirds because of mud. Spring calving full swing. Barley seeded 5%, last year 0, average 15%. Oats seeded 2%, last year 0, average 25%.

KENTUCKY: Temperatures averaged just a little below normal and precipitation averaged less than 0.50 in.

Continued cool weather has limited fieldwork and pasture growth. Cattle on hay and supplements, but in generally good condition. Spring calving has begun. Hay supplies are generally adequate. Some reports of heavy pig losses during winter quarter. Tobacco markets closed for the season.

LOUISIANA: Temperatures normal to 3° below normal. Extremes 81 and 28°. Light showers late week.

Fieldwork: 2.4 days suitable. Soil moisture surplus. Small grains fair. Pastures below average. Cattle fair, supplemental feeding. Earliest fields corn and rice planted. Planting Irish potatoes behind normal.

MARYLAND & DELAWARE: Temperatures averaged 8° above normal. Highs mid to upper 50's and lows upper 30's. Precipitation was light with most stations reporting about 1.00 in. of rainfall. Variable cloudiness 10th with light rain showers at night. Early morning snow flurries 11th followed by mostly sunny skies and brisk winds.

MICHIGAN: Temperatures 2 to 4° below normal Upper and ranged 2° below normal to 5° above normal Lower. High temperatures in extreme southern Lower reached into the 50's. Low temperatures dipped below zero over northern Lower and Upper. Precipitation was uniformly light averaging 0.22 in. Snowcover remains north of a line from Grand Rapids to Alpena. Snow depths range from 1.00 in. southwest Lower to 34.00 in. over Upper.

Farm activities include feeding livestock and tapping for maple sirup.

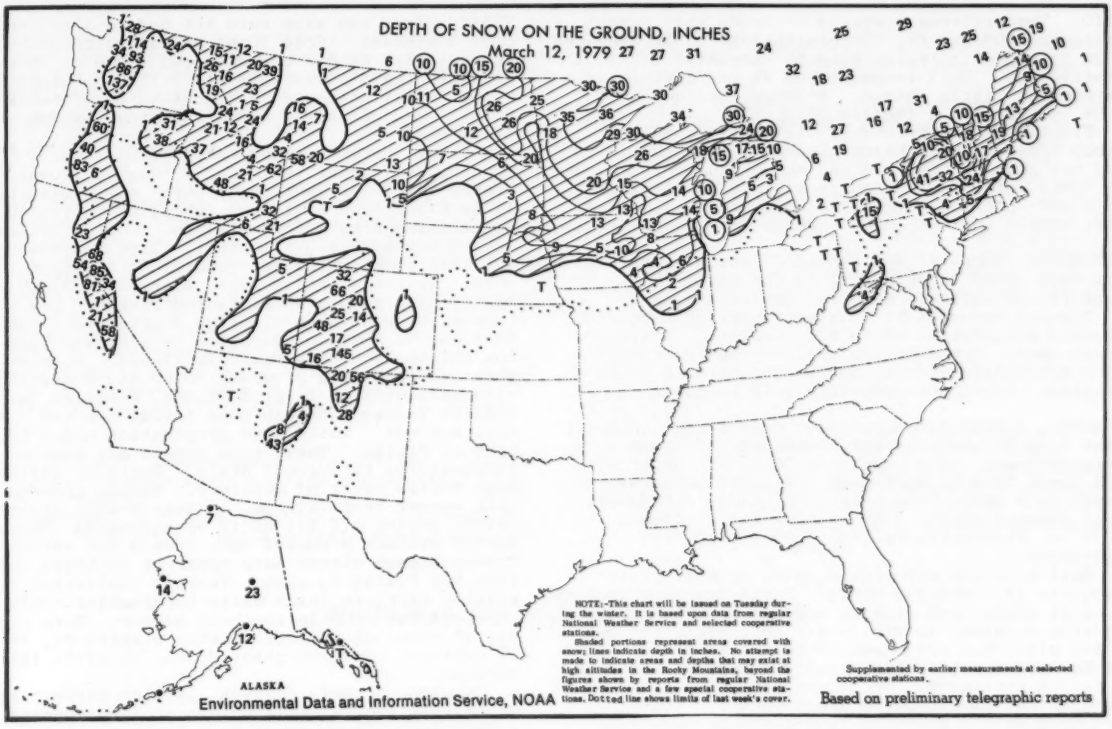
MINNESOTA: Temperatures averaged 6° below normal except northwest which averaged 10° below normal. Extremes: 46 and -14°. Precipitation averaged 0.10 to 0.30 in. below normal except extreme northeast and southwest where near normal. Snowfall less than 1 in. except southwest and northeast where 3 to 4 in. was received. Snow depth at week's end 7 to 15 in. south and west, 20 to 36 in. elsewhere.

MISSISSIPPI: Temperatures 3 to 5° below normal. Extremes: 22 and 77°. Widespread, heavy rain early week and widespread showers again late week before clearing 11th.

Soil moisture surplus. Fieldwork: 1.3 days suitable. Some land preparation on well drained soils but most areas still too wet. Winter grazing and grain crops improved and farmers applied nitrogen where fields would hold up equipment. Acreage plowed 25%, 21% 1978, 28% average. Corn 2% planted, 4% 1978. Irish potatoes 13% planted, 25% 1978. Winter wheat mostly fair and 2% jointing, equal to 1978 progress. Pastures mostly poor condition but improved. Livestock still required feed most areas. Hay and roughage supplies and feed grain supplies rated short to adequate. Livestock fair.

MISSOURI: Precipitation general, averaging 1.00 in. east Ozarks and Bootheel, 0.50 in. elsewhere. Some locally heavy rains up to 2.50 in. east Ozarks. Temperatures cool, averaging 4 to 5° below normal north and central, 7° below normal south.

MONTANA: For the first time in many months, temperatures averaged above normal over all areas. In the central areas temperatures ranged 11 to


DEPTH OF SNOW ON THE GROUND, INCHES
March 12, 1979
NOTE:-This chart will be issued on Tuesday during the winter. It is based upon data from regular National Weather Service and selected cooperative stations.
Shaded portions represent areas covered with snow; lines indicate depth in inches. No attempt is made to indicate areas and depths that may exist at high altitudes in the Rocky Mountains, beyond the figures shown by reports from regular National Weather Service and a few special cooperative stations. Dotted line shows limits of last week's cover.
Supplemented by earlier measurements at selected cooperative stations.
ALASKA
Environmental Data and Information Service, NOAA
Based on preliminary telegraphic reports

17° above normal. Precipitation was light except in western division where moderate to heavy rain fell.

Winter wheat good condition, snowcover very light western, heavier east and northeast. Livestock fair to good condition. Losses of newborn animals near normal. Calving and lambing 25% complete. Shearing 20% complete. Grazing opening up west, difficult to closed east.

NEBRASKA: Precipitation near a trace in Panhandle, less than 0.10 in. remainder. Temperatures 5 to 10° above normal west, slightly below normal in east. Flooding in some eastern lowland areas.

NEVADA: High pressure ridge produced mostly dry weather and above normal temperatures. Temperatures averaged 8 to 9° above normal northwest, 4 to 8° above elsewhere. Extremes: 82 and 5°.

Seedbed preparation underway south. Good progress calving and lambing. Mild weather easy on livestock.

NEW ENGLAND: Week unseasonably mild and very wet. Sunshine at a premium coming only in bits 5th and 9th. Rainfall heavy all sections. Southern and northern coastal areas all received 2.00 in. or more with 3.50 to 4.00 in. portions of Conn. and Mass. Snow confined to far north. Temperatures ran far above normal until 11th with northern sections 20 to 30° above normal at times. Heavy rain and mild temperatures caused flooding due to ice jams in northern rivers and many other areas experienced stream and street flooding.

NEW JERSEY: Temperatures averaged 5° above normal. Extremes: 17° at Charlotteburg and Long Valley 12th and 64° at various locations 6th. Precipitation totals for period 2.14 in. north, 3.14 in. central and 2.71 in. south. Heaviest storm total 3.26 in. Cape May Court House 6th and 7th.

Estimated soil moisture in percent of field capacity past week 100% throughout State. Four inch soil temperature today 34° north, 42° central and south. Water standing in low areas of many fields. No fieldwork begun. Some fruit pruning being done. Growers caring for livestock and tending to other normal chores.

NEW MEXICO: Week was mild and relatively dry.

Wheat and barley good. Warm weather causing alfalfa to break dormancy and fruit trees to bloom. Lettuce and onions doing well. Chile planting in the Mesilla Valley and sugarbeet planting on the eastside about to begin. Livestock fair. Calving, lambing, and shearing very active.

NEW YORK: 5 to 12° above normal. Temperatures ranged from the low 30's in the Adirondacks to low 40's in southeast. Below normal precipitation in west, was mainly around 0.50 in. but elsewhere above normal precipitation ranged near 1.00 in. in the St. Lawrence Valley to 2.00 to 3.00 in. in southeast.

NORTH CAROLINA: Temperature: 6° above normal. Precipitation: 1.00 in. to 2.00 in.

Fieldwork: 1.2 days suitable. Soil moisture: surplus. Condition: Small grains, Irish potatoes and tobacco plant beds fair to good. Pastures fair. Supplies: Hay, roughage and feed grains adequate. Plantings: Irish potatoes just underway.

NORTH DAKOTA: Warming western and central sections early week caused snow to settle and begin to melt. Colder air 9th stopped thawing. Extremes: -20° to 45°. Precipitation generally less than 0.1 in. Snowcover gradually diminishing west. Calving and lambing underway.

OHIO: Temperatures averaged 1° lower than normal. Extremes: 60 and 6°. Precipitation totals averaged 0.20 in.; 0.6 in. below normal. Amounts uniformly distributed. Soil temperatures in the north half have shown little change. Average readings at the 4 in. depth are in the low 50's.

Fluctuating temperatures stimulated excellent sirup flow. Manure being hauled on stubble fields and hay ground. Pasture and wheat had broken dormancy in south but virtually no growth. A few fields of late corn picked. Limited plowing for vegetables. Very little freish market cabbage set in southeast.

OKLAHOMA: Temperatures ranged 5° above normal in the west to 2° below normal in the east. No significant rainfall reported during the week.

Topsoil and subsoil moisture supplies adequate. Seedbed preparation 15 to 20% complete. Winter wheat good. Top dressing applications underway. Oats and barley fair to good. Spring oats being planted. Livestock generally fair to good.

OREGON: Temperatures averaged near normal in northeast 3 to 7° above normal elsewhere. Maximum temperatures: 60's and lower 70's, and upper 40's and lower 50's in northeast. Minimum temperatures: lower 30's west; 20's east of Cascades. Rainfall well above normal: 3.50 in. coastal stations; 1.25 in. Willamette Valley; 0.20 to 0.60 in. elsewhere.

Soil moisture supplies surplus in most areas; adequate in remaining areas. Fertilizer application to fall grains and pasture beginning. Fieldwork getting underway as fields dry up. Sugarbeet and onion plantings are expected to be later than usual in Malheur County. Fruit and caneberry pruning and spraying continued. Onion movement slow. Livestock feeding heavy. Supplies are adequate. Western Oregon pastures starting to green. Calving and lambing continued.

PENNSYLVANIA: Sunny to partly cloudy and mild 7th through 9th, rain beginning of week and weekend with light snow west 11th. Temperatures mostly in 20's to 50's averaging 2 to 4° above normal except northwest where 1 to 3° below normal. Extremes: 63 and 8°. Precipitation from less than 0.25 in. extreme west increasing to 1.25 in. extreme east. Normal winter chores.

PUERTO RICO: Island average rainfall 0.21 in. or 0.33 in. below normal. Temperatures averaged about 74° on coasts and 68° interior. Extremes: 89 and 44°.

SOUTH CAROLINA: Somewhat warmer than usual with 4 to 5 days cloudy, rainy. Only light rainfall in mountains. One of heaviest 24-hour amounts was 1.65 in. at Cheraw.

Cotton prices declined, trading less active, consisting of old and new crop cotton. Cotton contracting at standstill. Much cropland remains wet, but disking, pre-plant pesticide, herbicide applications everywhere conditions permit.

SOUTH DAKOTA: Temperatures below normal east, above west. Averages: 15 to 35°. Extremes: -17° and 65°. Snowcover held steady.

TENNESSEE: High pressure most of week. Cold front at weekend with showers. Precipitation 0.50 in. to 1.00 in.--below normal. Temperatures 2 to 4° below normal.

Soil moisture surplus. Pasture and small grains fair. Tobacco plantbed preparation progressing slowly. Main activities general chores.

TEXAS: Fair and warm thru 8th due to high pressure over southeast. Cold front 9th and 10th pushed across State producing scattered showers. High pressure again moved into State 11th. Rainfall below normal statewide. Temperatures 3° below normal east, 5° above normal Edwards Plateau, normal elsewhere.

Warmer, drier weather enhanced fieldwork. Cotton and sorghum stands beginning to show in lower Rio Grande Valley. Planting of corn, sorghum active lower Blacklands southward, preplant activities progressing High and Low Plains. Cotton planting active southern south central. East and Blacklands only two areas where wet conditions hampered fieldwork. Cotton planting full swing lower Rio Grande Valley with good stands planted fields. Low soil temperatures delayed planting Coastal Bend and upper Gulf Coast. Land preparation on schedule High and Low Plains, behind normal Blacklands. Sorghum planting continued progress lower Rio Grande Valley; planted fields up to good stands. Planting in Central Texas, although some fields too wet. Areas east too wet; while land preparation moved at brisk pace on Plains. Wheat made growth due week's temperatures throughout State. Parts of northern High Plains short of moisture. Stands greened up with warmer temperatures. Insect damage minimal. Cattle moving off fields to be harvested for grain. Warmer weather promoted oats growth but extent of freeze damage stands more apparent northern border from Low Plains to east. Farmers replanting spring grazing northern Texas while topdressing conducted on excellent crop in southern sector. Corn planted 6%, 4% 1978, 6% average. Cotton planted 4%, 1% 1978, 2% average. Sorghum planted 15%, 9% 1978, 14% average.

Cabbage, carrot, spinach, lettuce harvest active. Grapefruit and Valencia orange picking nearing completion. Citrus trees have begun to bloom. Melon, cabbage, and carrot planting continued, some early fields up. Land preparation as well as onion, potato, pea planting continued as fields dried. Planting sweet corn, tomatoes, beans, potatoes, onions underway. Peach trees throughout south and along upper Gulf Coast near full bloom. Early varieties in central in full bloom with later varieties in pink bud stage. Buds in north and east have begun to swell with few early varieties blooming.

Range and livestock conditions continued to improve with warmer weather. Many winter annuals and grain pastures continue signs of regrowth. Few stockers began moving off wheat pastures, those remaining making improved gains. East most forage remained short; oats, clover, ryegrass had begun to respond to warmer temperatures. Supplemental feeding has begun to taper off with regrowth of small grains, range and pasture grasses.

UTAH: Little or no precipitation. Slightly rising trends in temperatures. Average temperatures ranging from 9° below normal to 3° above.

Many areas wet and muddy from melting snow. Most livestock in good condition. Some spring calving. Early lambing in progress on the western ranges. Pruning of fruit trees in progress. Fruit buds beginning to swell in fruit growing areas--especially southern Utah.

VIRGINIA: Temperatures averaged about 5° above normal. Extremes: 71 and 22°. Rainfall amounts from 0.30 to 2.93 in. Minor flooding early week.

Topsoil moisture: surplus. Winter grains, pastures good. Fieldwork: 1.0 day suitable. Feed, hay supplies ample. Rain and wet soils limited planting and land preparation. Main

activities: Topdressing small grains, tobacco seedbed preparation, limited seeding started tobacco beds southeast, pruning orchards, feeding and caring for livestock and poultry.

WASHINGTON: West: Temperatures 5 to 6° above normal. Precipitation 0.10 in. below normal to 1.80 in. above normal.

Spring-like conditions encouraged pasture growth, berry bud development; plowing, spreading lime and manure active. Raspberry growers digging planting stock, setting out new fields, finishing pruning and tying. Harvesting of forced rhubarb continued. Hay adequate.

East: Temperatures 4° above normal. Precipitation 0.10 in. below normal to 0.10 in. above normal.

Seeding spring grains, fall grains hurt by winterkill. Orchard pruning, brush clearing continued. Hop roots being dug for new plantings. Seeding onions, carrots, peas, alfalfa underway. Calving full swing, lambing tapering off. Feed adequate.

WEST VIRGINIA: Temperatures 5 to 10° above normal. Precipitation well above average northcentral near normal elsewhere.

Fieldwork: 2.6 days suitable. Soil moisture adequate to surplus. Hay and grain supply adequate to surplus. Some farmers starting to prepare tobacco beds. Fields very soft and muddy.

WISCONSIN: Temperatures near or above normal until weekend when much colder. Highs mostly in 30's but plunged to teens 10th. Lows ranged from teens to near freezing but dropped below zero 11th. Extremes 42 and -12°. Precipitation light snow north, and light snow and drizzle south. Snowcover settling with melting snow going into ground. Very little runoff or flooding to date. Snow depths averaged 19 in. as of 9th, decrease of 9 in. from two weeks earlier. Frost depths averaged 5 in., decline of about 3 in. from two weeks ago and 13 in. less than average.

WYOMING: Temperatures near normal or above with highs in 40's to 60's and lows from -12 to 14°. Precipitation generally below normal with exception of northeast.

Mild weather lowering stress on livestock. Supplemental feeding continues in most areas. Livestock suffering from under-nourishment due to hay shortages. Above normal death loss in newborn lambs where winter has been most severe. Livestock generally fair to good. Winter wheat mostly good.

World Weather and Crop Update

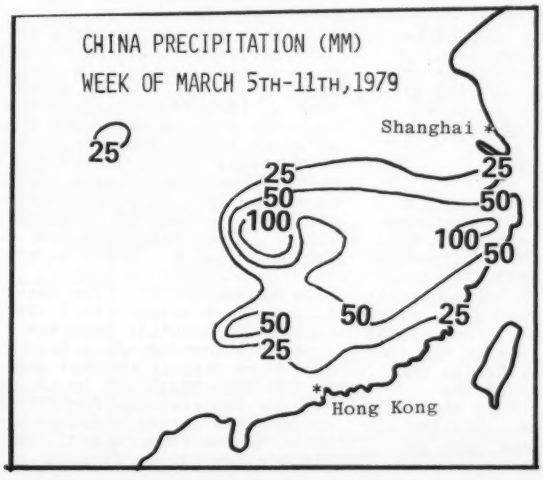
March 5 - 11

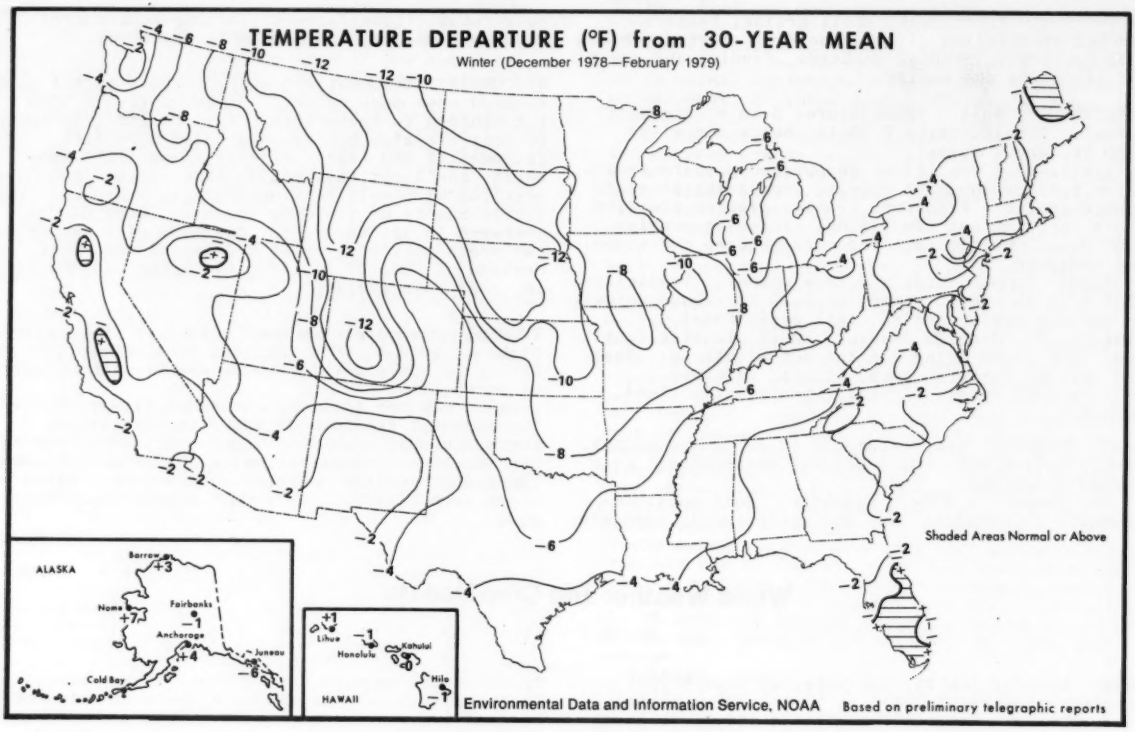
USSR. Most of the Ukraine received near-normal precipitation totals of 5 to 7 mm, adding to the snowpack and moving the snowline a little further south in central areas (see map). Winter wheat should still be in a dormant state, even along the Black Sea. Light snowfall across northern agricultural areas continued the pattern of the previous week. Rainfall tapered off to near zero in extreme south-central areas, where amounts of less than 10 mm occurred only in southern Uzbekistan. The previous week's precipitation had supplied adequate moisture though as spring fieldwork began.

CHINA. Much of southeastern China received above-normal rainfall ranging from 25 to 120 mm as rice transplanting continued under favorable conditions. The greatest amounts fell in the Yangtze River Valley, but lesser totals over the entire southern half of the winter wheat belt maintained normal moisture conditions as spring growth continued. Northwestern winter wheat areas also received above-normal precipitation (5 to 15 mm), but northeastern parts of the belt were dry.

AUSTRALIA. In northern parts of the country, rainfall surged above normal in most areas after several weeks of slightly-below-normal rains. Southeastern areas continued quite dry for the second consecutive week. The erratic timing of rains in that area during the growing season has not been particularly favorable for crop development.

(continued on backcover)





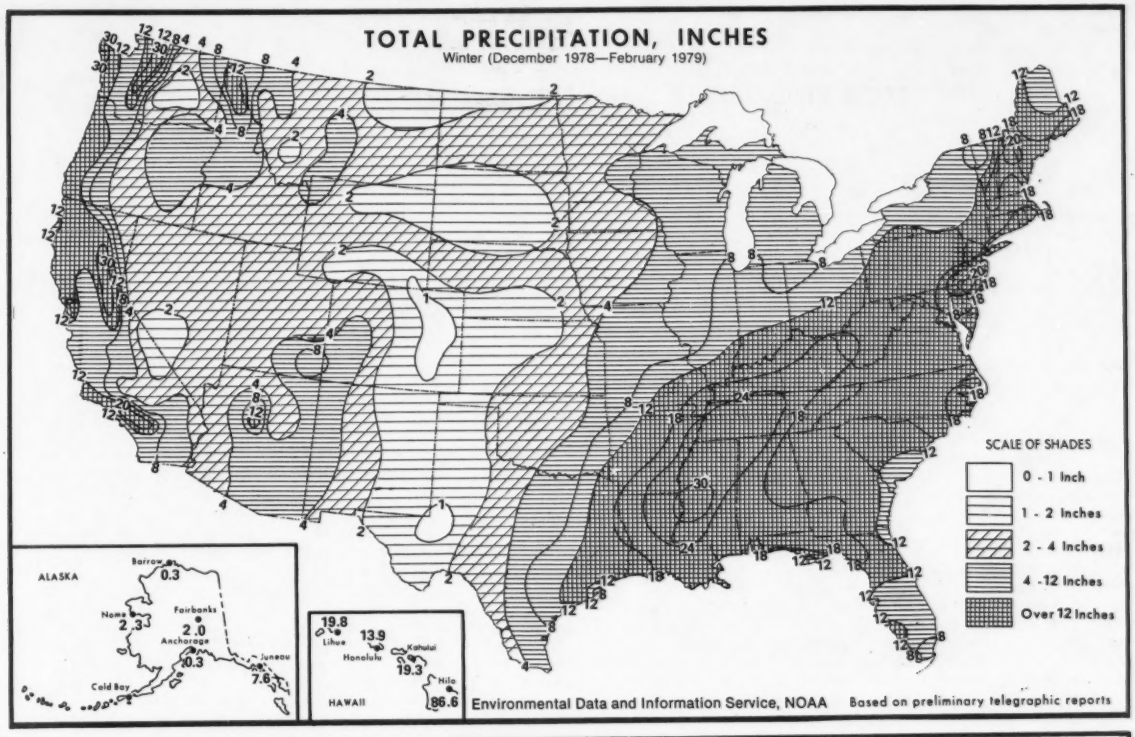
Winter Weather Review

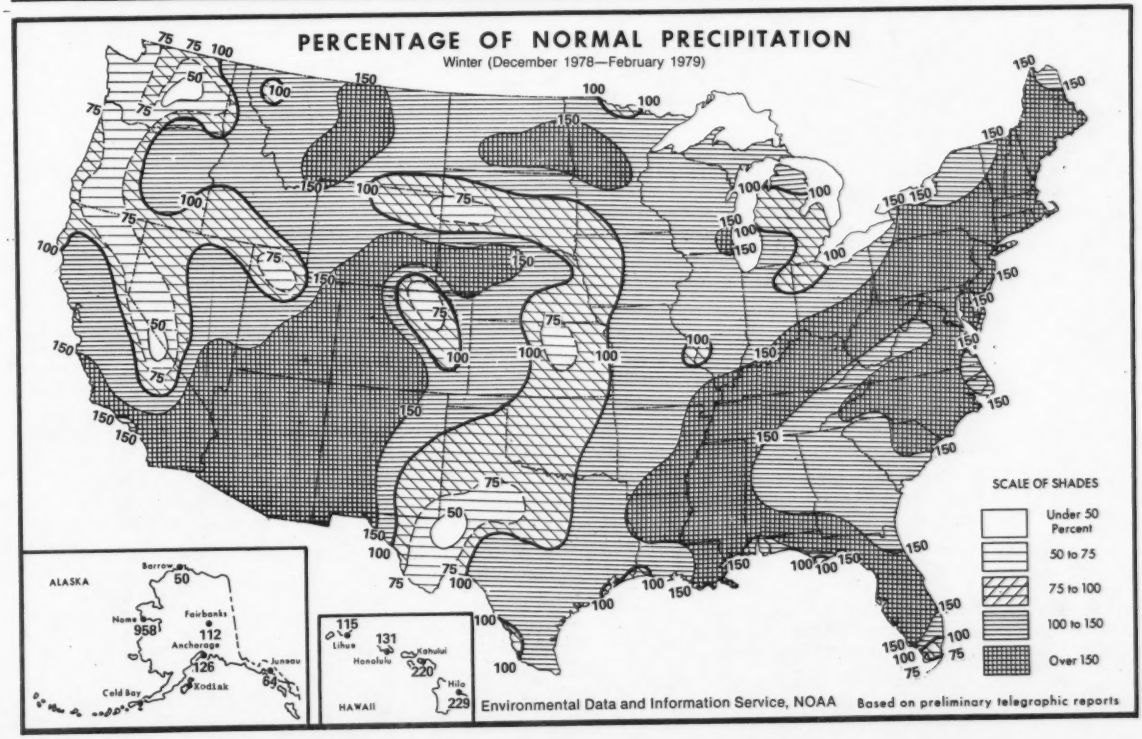
HIGHLIGHTS: The winter season turned very cold over nearly all of the U.S. Many record cold temperatures were experienced, and many areas established a record number of days on which the temperature did not rise above the freezing mark. Even with heavy snowcover, frost penetrated the ground to 6 feet or deeper in parts of North Dakota. For the 3-month period, temperatures averaged 8 to 12 degrees colder than normal in most of the Plains and the Rockies. Heavy snow accumulated in the Great Lakes area and the Midwest. Moderating temperatures late in the period depleted most of the snow in the Midwest. Freeze damage hurt crops in California, Arizona, Texas and to a lesser extent in Florida. Late in the season, a heavy snowfall deposited 18 to 24 inches in parts of the mid-Atlantic States, but subsequent warming rapidly melted the white stuff.

Early in the winter season (Dec. 6-9), an outbreak of very cold air moved southward from Canada and brought a major freeze to southern California and Arizona. Freeze damage to crops was extensive. The cold air moved eastward and damaged some crops in the lower Rio Grande Valley, and finally brought a light freeze to northern Florida, but no significant damage was noted there. December precipitation ranged below normal in northern California and the Pacific Northwest. Also, most of the Plains had less than normal precipitation. Much of the Nation's winter wheat area collected less than half the precipitation expected in December, but the month ended with a protective snowcover over the area. Elsewhere, heavy precipitation fell in the Southwest, the Rockies, and from the lower Mississippi Valley through the Ohio Valley and into western New York.

Most of the Nation had normal or above-normal precipitation during January. The winter wheat areas of Kansas, Oklahoma, and Texas recorded more than 150 percent of the normal amount. Exceptions to the heavier precipitation were the Pacific Northwest where only 40 to 60 percent of the expected moisture fell and across the northern States to the Great Lakes. The 300 percent of normal in New England fell as rain along the coast and local flooding ensued. Most of the U.S. was colder than normal in January. The coldest areas were the central Plains where departures were as much as 16 degrees colder than normal, and the northern Rockies where the departures were as much as minus 18 degrees.

Seasonal precipitation finally came to the Pacific Northwest during February and continued as the month ended. Amounts falling in most of the area were well above normal, and the excessive precipitation carried across the northern States to the Great Lakes. Above-normal precipitation also fell in northern California, Nevada, Utah, and much of New Mexico. The heavy February precipitation will be helpful in filling reservoirs and increasing mountain snowpack. Elsewhere, good precipitation fell from East Texas to Georgia and northward through Pennsylvania. Flooding occurred in the Deep South and in the mid-Atlantic areas. Average temperatures for February were generally colder than normal although a warming trend was noted as the month ended. The central Plains and Midwest were 12 to 14 degrees colder than normal.


TOTAL PRECIPITATION, INCHES
Winter (December 1978—February 1979)
SCALE OF SHADES
0 - 1 Inch
1 - 2 Inches
2 - 4 Inches
4 -12 Inches
Over 12 Inches
ALASKA
Barrow 0.3
Nome 2.3
Fairbanks 2.0
Anchorage 0.3
Juneau 7.6
Cold Bay
HAWAII
Lihue 19.8
Honolulu 13.9
Kahului 19.3
Hilo 86.6
Environmental Data and Information Service, NOAA
Based on preliminary telegraphic reports


PERCENTAGE OF NORMAL PRECIPITATION
Winter (December 1978—February 1979)
SCALE OF SHADES
Under 50 Percent
50 to 75
75 to 100
100 to 150
Over 150
ALASKA
Barrow 50
Nome 958
Fairbanks 112
Anchorage 126
Juneau 64
Kodiak
Cold Bay
HAWAII
Lihue 115
Honolulu 131
Kahului 220
Hilo 229
Environmental Data and Information Service, NOAA
Based on preliminary telegraphic reports

SEVERE WINTER WEATHER AFFECTS LIVESTOCK INDUSTRY

by James E. Nix*

The severely cold temperatures that hit parts of the United States this winter had an adverse effect on the livestock industry. In many instances, the cold temperatures were accompanied by heavy snowfall and/or high winds. These winter conditions appear to have caused larger than normal livestock deaths, caused a deterioration in the health of many animals, and delayed rates of weight gain. Transportation problems were also encountered in getting animals to market and moving meat to the consumer.

There are few guidelines for accurately assessing the impact that winter weather has on the livestock industry. Weather-related transportation problems are generally of short duration. As soon as roads were cleared, the movement of livestock and meats proceeded and within a short time the lost time was made up.

On the other hand, the impact on the animals may be severe and long-lasting. Weather-related deaths during winter storms are the immediate visible effects and the ones that are most often publicized. But there are other weather-related problems that may have longer term impacts on production. The condition of breeding stock may deteriorate significantly during extremely cold weather. This can result in the production of offspring in weakened condition at birth which reduces chances of survival or slows growth. Furthermore, if breeding stock is in poor health, breeding problems may be encountered. These problems are more difficult to quantify because their impact may be felt for months, and perhaps even years.

Weight gains are slowed during extremely cold weather. Feed requirements for maintenance rise during very cold weather. So, to get weight gains the feed intake would have to increase markedly. The suppressed growth can usually be overcome through "compensatory growth" when weather conditions improve. But the amount of "compensatory growth" depends on the duration and the severity of the cold period.

For a given set of weather conditions, the impact on livestock production varies with the type of shelter provided the animals as well as their health going into a period of severe weather. Since one rarely has information on all of these factors, an accurate assessment for any particular adverse weather episode is impossible. Nevertheless, a brief review of some weather conditions this winter (December 1978-February 1979), a comparison with last winter, and the normal may indicate what to expect from the present situation.

Major Hog-Producing Region Colder than Normal this Winter

The major hog-producing area in the United States centers around Iowa and northwestern Illinois (fig. 1). A review of temperatures at selected reporting stations in this area gives some indication of how this winter (1978-79) compares with last winter and with the normal (table 1).

Winter temperatures in both 1977-78 and 1978-79 were considerably below normal in this area. Average weekly temperatures suggest that December 1978 was not quite as cold as December 1977. But from the beginning of 1979 until mid-February, temperatures were extremely low, particularly during the first two weeks of both January and February. During these two periods, temperatures were considerably colder than last year's which were much below normal. In many instances, these extemely low temperatures were accompanied by high winds and heavy snowfall. Confined production facilities are prominent in this area, and the experience gained in last year's severe weather may have helped some producers cope with the situation better this year than last. Nevertheless, such weather conditions generally have a significant adverse impact on hogs produced in this area.

By mid-February 1979, temperatures had moderated but stayed below normal. They were, however, warmer than the late February 1978 temperatures.

Average weekly temperatures may mask many of the extreme fluctuations that occur. A record of daily minimum temperatures for Des Moines, Iowa, shows that some sharp changes occurred this winter

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FIGURE 1.

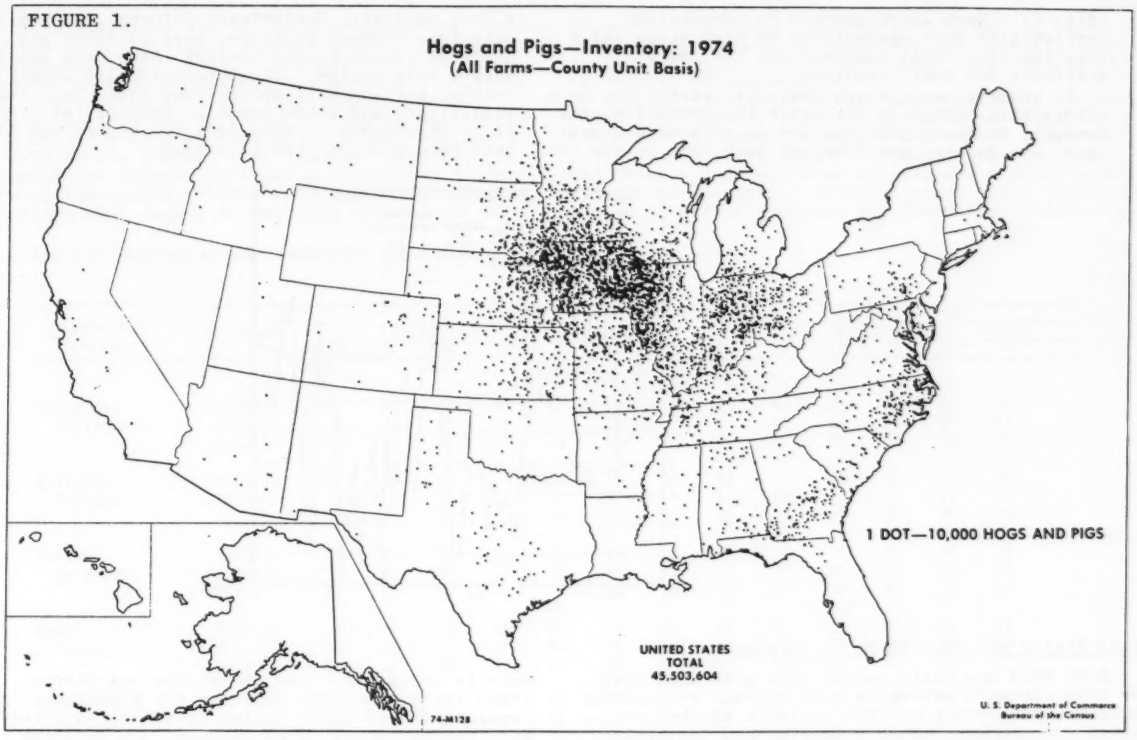


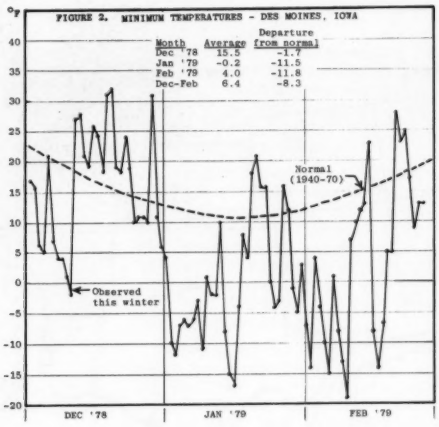
Table 1.--Average weekly temperature for 3 periods, selected reporting stations in the major hog-producing area

Reporting station	Period 2/	Week ending 1/												
		December				January				February				March
		10	17	24	31	7	14	21	28	4	11	18	25	4
		---Degrees Fahrenheit---												
Des Moines, Iowa	1978-79	14	32	29	19	0	9	15	14	2	4	11	26	30
	1977-78	9	40	22	18	19	8	8	10	8	14	9	18	15
	Normal	28	25	23	21	20	19	19	18	21	22	25	26	28
Dubuque, Iowa	1978-79	10	26	25	15	-6	-1	9	15	3	0	12	20	29
	1977-78	1	34	19	12	17	2	7	8	6	11	9	16	12
	Normal	26	23	21	19	18	19	17	18	19	20	22	24	26
Burlington, Iowa	1978-79	16	32	33	22	2	4	18	17	8	6	14	26	33
	1977-78	8	38	26	21	23	9	11	12	11	17	13	20	18
	Normal	30	28	26	24	23	23	22	23	25	26	28	29	31
Peoria, Illinois	1978-79	18	31	31	24	-1	6	17	17	7	5	15	25	33
	1977-78	8	37	24	19	23	8	13	11	12	14	12	19	17
	Normal	30	28	26	25	24	23	23	24	25	26	28	30	31
Rochester, Minnesota	1978-79	1	24	20	7	-12	-8	4	9	-4	-4	5	17	25
	1977-78	-2	33	15	9	12	-2	1	5	1	7	7	13	10
	Normal	22	19	17	15	13	13	12	13	14	15	17	19	21
Sioux Falls, South Dakota	1978-79	6	21	20	9	-6	-1	9	8	-7	2	5	16	26
	1977-78	5	32	15	7	7	1	-2	4	-2	13	5	15	8
	Normal	23	20	18	16	14	14	14	14	16	18	20	22	24
Grand Island, Nebraska	1978-79	11	26	23	15	1	6	16	12	-2	9	11	23	29
	1977-78	14	40	25	21	20	12	4	14	10	16	8	24	13
	Normal	30	27	25	24	22	22	22	23	24	26	28	30	31

1/ Dates are for the 1978-79 winter period.
2/ Normals are based on 1941-70.

(fig. 2). Such sharp changes in temperature, particularly when accompanied by high winds and a very low wind chill temperature, are extremely difficult for most livestock.

In summary, we can say that this winter was much colder than normal in the major hog-producing area. However, December 1978 was not as cold as December 1977, but January and February 1979 were colder than a year earlier. Preliminary informal reports indicate that disease problems, many of which are believed caused by bad weather, have once again been severe this winter. These reports also suggest that deaths, particularly among young pigs, have been significant and above normal. However, at present it is impossible to ascertain whether or not they have been greater than last year.



This Winter was also Rough on Cattle

Both beef and dairy cattle have also been hurt by this winter's extremely cold weather and storms. However, the impact of this winter's weather on these enterprises varies by region and the type of production facilities used.

Beef cattle production is widely spread across the United States (fig. 3). The major hog-producing area is also one of the major beef-producing areas, and our comparison of this winter with last year and the normal would suggest that cattle in this area were also hurt by the extremely cold weather and especially by the major snowstorms.

To characterize the situation for other beef-production areas, average weekly temperatures for selected reporting stations around the country are summarized (table 2). These are only a sample of the large volume of data that would be required to describe completely the weather situation in all beef-production areas.

An examination of data in tables 1 and 2 shows that weather conditions this winter varied considerably between regions and in comparison to the normal. For example, the temperature data for Stockton, California, suggests that the winter was not too severe in that area. On the other hand, data for Billings, Montana, and Denver, Colorado, indicates that there were periods of extremely cold weather. Early January 1979 was much colder than last year and the normal.

Data for Waco, Texas, and Montgomery, Alabama, indicate that the winter was not much colder than normal in most of the South and Southeast. There were some periods when temperatures dipped much below normal, but they did not remain there for an extended period as they did in the midwestern and Plains States.

The cold weather and heavy snowfalls in the Corn Belt, Lakes States, and northern Plains may have been particularly hard on early calving. Deaths would appear to have been higher than normal. Furthermore, some beef cows may have come through the winter in poorer condition than normal, and this could have a bad effect on spring calves. Rates of gain for feedlot cattle are reported to have been held down by the cold weather.

Feedlot cattle also may have performed poorly this year in areas where temperature data do not make it appear that the winter was too severe. For those areas where the cold was not persistent, muddy feedlots caused by excessive moisture and freezing and thawing slowed rates of gain. And in areas where snow accumulations were large, the spring thaw will result in additional problems with muddy feedlots.

Thus, because of the vastly different production systems and the wide variations in weather conditions, it is difficult to assess quantitatively the impact of this winter's weather on beef production for the Nation as a whole.

Dairy production is also hurt by abnormally cold weather and some of the major dairy-producing areas (fig. 4) were also hard-hit by this winter's cold weather and heavy snows. Snowfall was very heavy and temperatures were extremely cold in most of the Lakes States. The average temperature at Madison, Wisconsin, during the first week of January was -1° Fahrenheit, or 18 degrees below normal (table 2).

In the Northeast, dairy farmers were not hit with extremely cold weather until February. But in February, temperatures in this area fell to near record levels. At one location in this area (Binghamton, New York), temperatures averaged -2°F during the second week of February. These low temperatures no doubt had some impact on milk production.

Summary

All livestock are not affected by weather in the same way. Thus, this variation in sensitivity combined with the wide variation in weather conditions, makes it difficult to assess the impact of weather on total livestock production. The situation is further complicated by the many different production systems, and especially the care that individual managers give their animals.

While we cannot accurately quantify the impact of this winter's storms and cold weather on livestock, we can examine weather data and see how this year compares with other years. In so doing, it is revealed that some areas of the country had temperatures much below normal while others were near normal. Livestock producers have in many cases allowed for severe winter storms in their management decisions. One of the fortunate aspects of this

year's bad weather was its occurrence during those periods when the winter weather usually reaches its maximum severity. Thus, livestock managers have probably already programmed bad weather conditions into their operations for this period. Hence, impacts of this winter's bad conditions should have been less severe than had the cold occurred early or late in the winter---for example, producers do not plan for calving or lambing during the coldest part of the winter. Thus, when weather conditions are worse than usual, it may only affect some of the early offspring. But if late winter or early spring weather were to be colder than normal, then it may hurt more than below-normal temperatures in the middle of the winter.

Though losses this winter have yet to be determined, it is certain that conditions seriously hampered livestock operations and likely caused greater than normal death losses for cattle, hogs, and sheep. Reduced rates of gain and a deterioration in the health of breeding stock would appear to prolong the effects beyond the immediate losses.

Table 2.--Average weekly temperature for 3 periods, selected reporting stations

Reporting station	Period 2/	Week ending												
		December				January				February				March
		10	17	24	31	7	14	21	28	4	11	18	25	4
		---Degrees Fahrenheit---												
Stockton, California	1978-79	42	45	40	37	44	50	47	43	42	52	54	51	52
	1977-78	48	49	51	52	53	53	53	45	49	52	50	55	57
	Normal	47	46	45	44	44	44	44	45	47	48	49	50	51
Billings, Montana	1978-79	12	26	26	3	3	2	18	12	2	23	15	21	25
	1977-78	4	35	21	13	14	12	9	13	10	15	11	26	6
	Normal	29	27	26	24	22	21	21	22	24	26	28	29	29
Denver, Colorado	1978-79	18	30	32	26	11	19	33	14	13	34	40	36	36
	1977-78	30	43	33	27	34	27	21	22	32	31	22	39	28
	Normal	34	33	32	31	30	30	30	30	31	32	33	34	34
Waco, Texas	1978-79	37	44	52	46	27	33	50	38	35	39	48	50	51
	1977-78	45	58	51	48	50	35	30	37	43	38	38	48	43
	Normal	52	50	49	48	47	46	47	47	48	50	51	52	53
Springfield, Missouri	1978-79	27	35	42	31	13	13	28	20	13	19	26	38	39
	1977-78	23	47	34	31	34	15	12	17	22	23	18	23	25
	Normal	38	36	35	34	33	32	33	33	34	36	37	38	40
Madison, Wisconsin	1978-79	13	29	28	18	-1	1	10	19	9	2	11	21	29
	1977-78	8	35	22	13	18	4	9	12	5	12	11	18	12
	Normal	25	22	20	18	17	17	16	17	17	19	20	22	24
Montgomery, Alabama	1978-79	55	45	48	49	38	41	50	40	39	40	51	57	57
	1977-78	46	56	48	42	49	34	38	41	40	40	47	43	46
	Normal	50	49	48	47	47	47	47	48	49	50	51	52	53
Lexington, Kentucky	1978-79	39	35	39	36	23	19	29	25	20	16	28	37	44
	1977-78	21	44	36	26	33	14	22	19	17	14	25	24	23
	Normal	37	36	34	34	33	33	33	33	33	34	35	37	39
Binghamton, New York	1978-79	35	29	24	23	23	14	16	31	18	5	-2	29	35
	1977-78	17	30	29	16	26	17	16	19	11	16	17	17	14
	Normal	28	25	24	23	22	22	22	22	22	22	22	23	24

1/ Dates are for the 1978-79 winter period.
2/ Normals are based on 1941-70.

FIGURE 3.

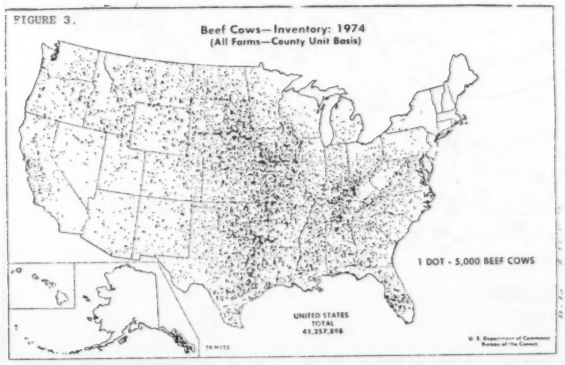


FIGURE 4.

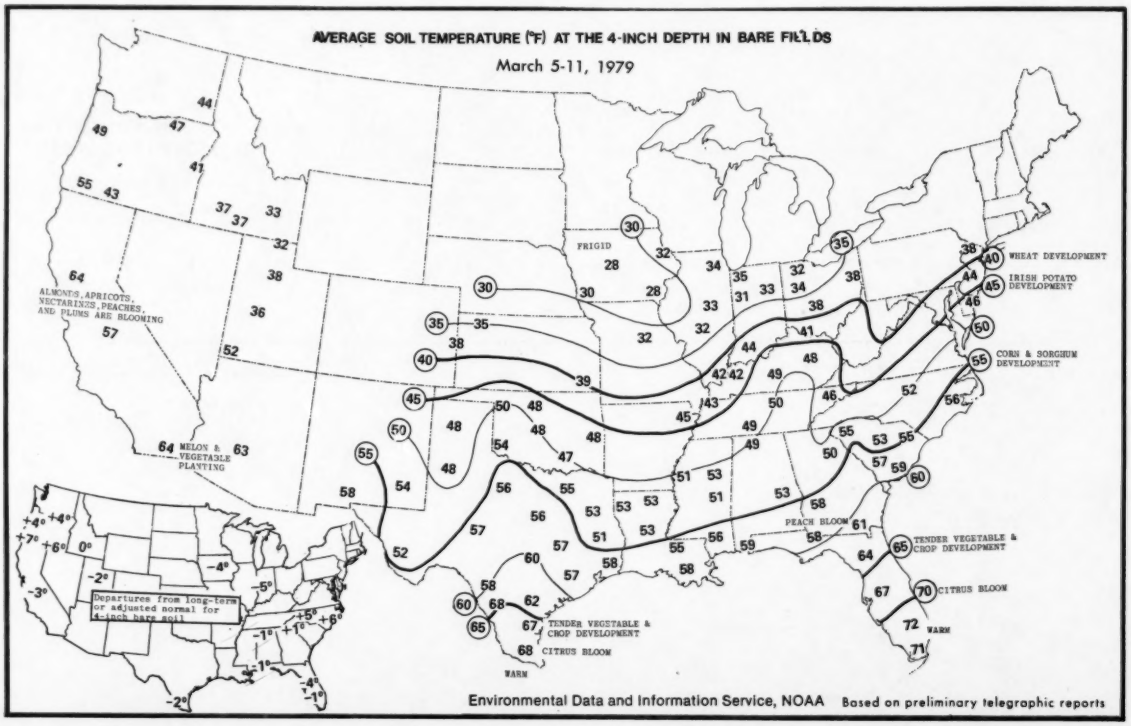
WATER SUPPLY OUTLOOK FOR THE WESTERN UNITED STATES
Issued as of March 1, 1979

The table below shows the runoff forecast in percent of the 15-year (1963-77) average. The forecasts are for the remainder of the water year (October thru September), except for the full water year for the Sacramento and San Joaquin Basins; April 1 to September 30, 1979, for the Missouri, Yellowstone, and North Platte Basins; November 1, 1978 to June 30, 1979 for the Little Colorado Basins; and January 1 to June 30, 1979, for the Gila Basin. The publication "Water Supply Outlook for the Western United States," issued as of March 1, 1979, contains the complete water supply forecasts for about 375 stations in the Western United States.

River	Station	Forecast 1,000 Acre-feet	Percent 15-year average
Columbia	Grand Coulee, WA	60,300	89
Columbia	The Dalles, OR	89,700	87
Snake	Lower Granite, WA	20,700	90
Sacramento	Red Bluff, CA	5,500	61
San Joaquin	Big Creek, CA	1,450	113
Weber	Gateway, UT	226	86
Jordan	Utah Lake, UT	275	113
Truckee	L. Tahoe-Farad	233	79
Colorado	L. Powell infl.	10,800	155
Green	Green River, UT	3,380	114
San Juan	Bluff, UT	1,850	214
Little Colo.	Woodruff, AZ	63	521
Gila	Solomon, AZ	270	265
Rio Grande	San Marcial, NM	750	224
Arkansas	Pueblo, CO	340	135
Missouri	Ft. Peck, MT	4,390	89
Yellowstone	Sidney, MT	1,600	97
North Platte	Glendo, WY	1,020	105

Office of Hydrology
National Weather Service

*This 15-year average indicates seasonal forecast totals.


AVERAGE SOIL TEMPERATURE (°F) AT THE 4-INCH DEPTH IN BARE FIELDS
March 5-11, 1979
FRIGID
WHEAT DEVELOPMENT
IRISH POTATO DEVELOPMENT
CORN & SORGHUM DEVELOPMENT
ALMONDS, APRICOTS, NECTARINES, PEACHES, AND PLUMS ARE BLOOMING
MELON & VEGETABLE PLANTING
PEACH BLOOM
TENDER VEGETABLE & CROP DEVELOPMENT
CITRUS BLOOM
WARM
Departures from long-term or adjusted normal for 4-inch bare soil
Environmental Data and Information Service, NOAA
Based on preliminary telegraphic reports

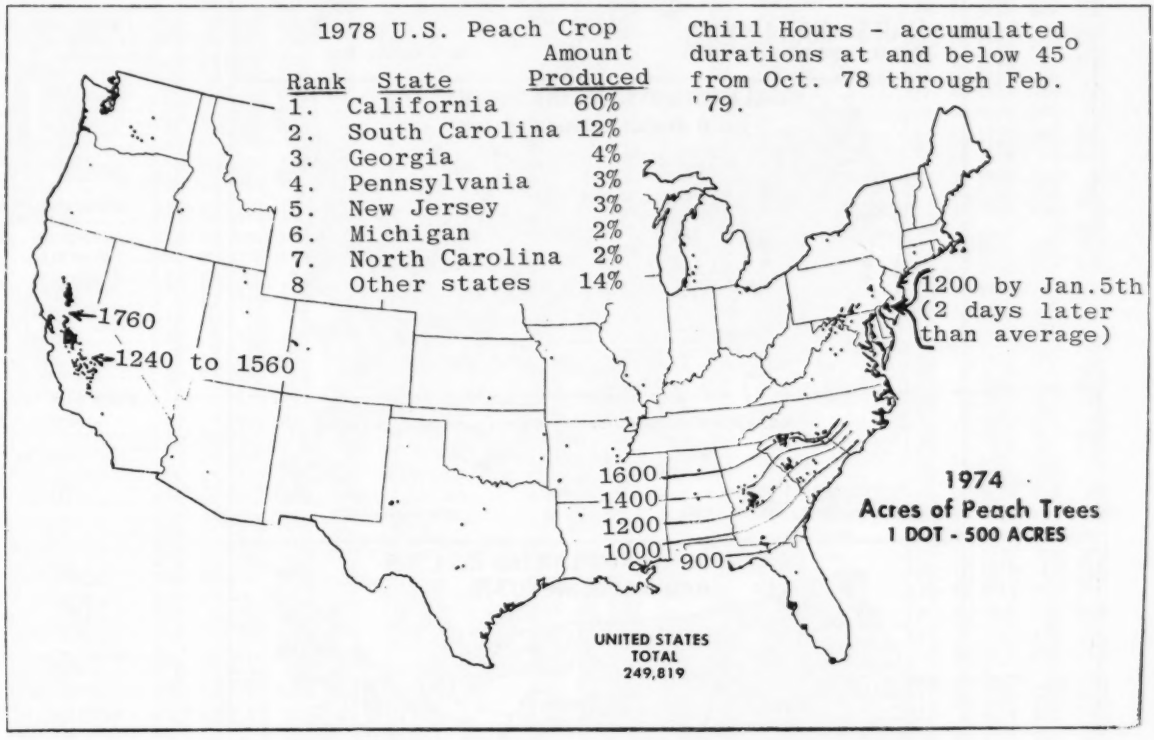
HAS MISS PEACH OF 1979 HAD HER BEAUTY REST?

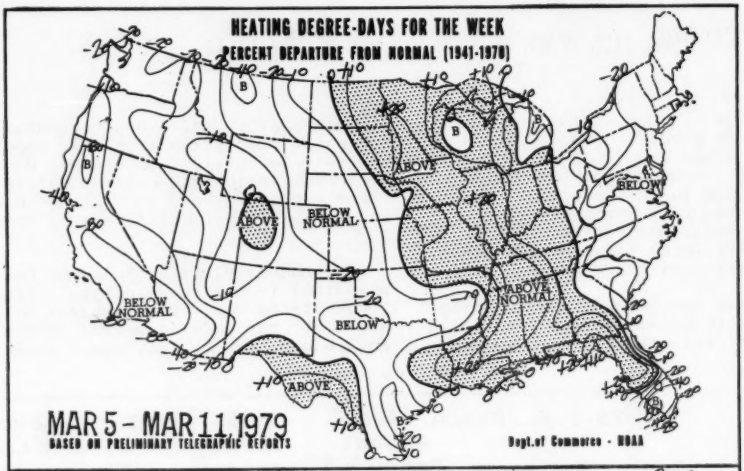
Peach trees, like people, need sufficient rest for peak performance. This rest, or dormant, period for peaches and other deciduous trees occurs during the cold seasons. However, winters are sometimes too mild or warm in southern areas to produce adequate chill and rest for peach trees. And without sufficient rest, the spring bloom period could be unusually long; flower and pollen development would be weak; and fruit set would be poor.

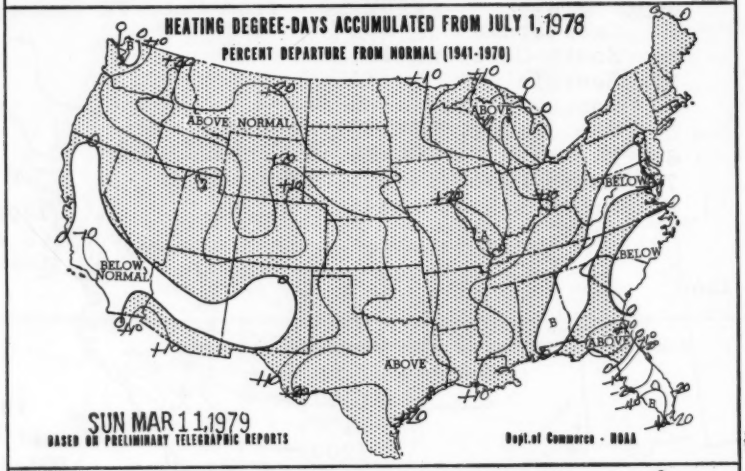
Each peach variety has its own minimum chilling requirement, traditionally measured as the number of hours at or below 45° and called "chill hours".

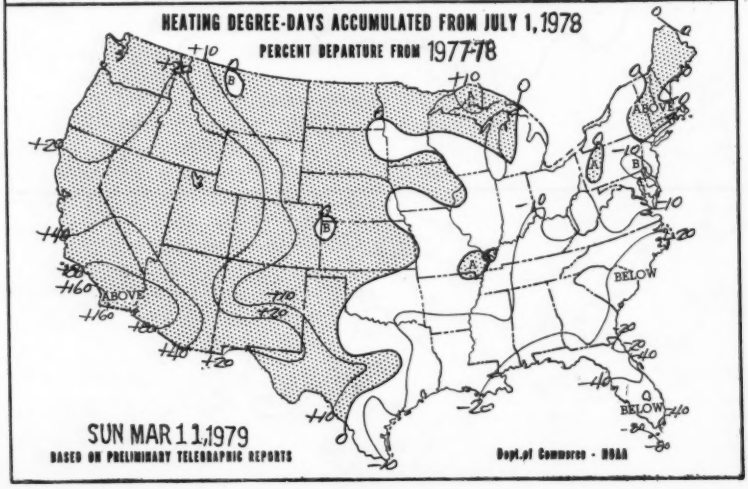
This year's "chill hour" accumulations (see map) for major production areas are about normal and adequate for a vigorous bloom. Blooming began in northern Florida and central California during the first week of March, and spread to southern Georgia and north central California by mid-March.

An unusually early bloom may be risky because of potential frost/freeze damage. Approximate critical temperatures for various stages of peach development are: 25° for buds closed but showing color, 27° for full bloom, and 30° for small green fruit.




HEATING DEGREE-DAYS FOR THE WEEK
PERCENT DEPARTURE FROM NORMAL (1941-1970)
ABOVE
BELOW NORMAL
BELOW
ABOVE NORMAL
MAR 5 - MAR 11, 1979
BASED ON PRELIMINARY TELEGRAPHIC REPORTS
Dept. of Commerce - NOAA


HEATING DEGREE-DAYS ACCUMULATED FROM JULY 1, 1978
PERCENT DEPARTURE FROM NORMAL (1941-1970)
ABOVE NORMAL
BELOW NORMAL
ABOVE
BELOW
SUN MAR 11, 1979
BASED ON PRELIMINARY TELEGRAPHIC REPORTS
Dept. of Commerce - NOAA


HEATING DEGREE-DAYS ACCUMULATED FROM JULY 1, 1978
PERCENT DEPARTURE FROM 1977-78
ABOVE
BELOW
SUN MAR 11, 1979
BASED ON PRELIMINARY TELEGRAPHIC REPORTS
Dept. of Commerce - NOAA

HEATING DEGREE DAYS (BASE 65°) FOR WEEK ENDING MAR. 11. 1979.

STATES AND STATIONS	WEEKLY TOTAL	WEEKLY DEPARTURE*	SEASONAL ACCUMULATION + TOTAL	SEASONAL ACCUMULATION + DEPARTURE*	SEASONAL ACCUMULATION + DEPARTURE FROM 1977-78
ALA.					
BIRMINGHAM	127	24	2562	76	530
MOBILE	67	16	1535	15	370
MONTGOMERY	86	5	1860	157	412
ARIZ.					
FLAGSTAFF	186	41	5575	217	1114
PHOENIX	9	41	1304	85	645
TUCSON	32	32	1597	65	478
WINSLOW	147	8	4059	191	776
YUMA	0	28	1098	167	527
ARK.					
FORT SMITH	132	8	3554	638	88
LITTLE ROCK	109	16	3237	312	97
CALIF.					
BAKERSFIELD	8	59	1618	246	617
EUREKA	86	33	3377	170	537
FRESNO	18	68	2069	133	479
LOS ANGELES	24	39	1181	88	536
RED BLUFF	12	79	1995	180	530
SAN DIEGO	12	41	936	142	579
SAN FRANCISCO	47	40	2333	145	503
STOCKTON	34	59	2245	33	577
COLO.					
DENVER	158	52	5098	474	561
GRAND JUNCTION	192	9	5605	1006	1474
PUEBLO	158	34	5052	710	514
CONN.					
BRIDGEPORT	144	64	4254	47	197
HARTFORD	156	70	5374	340	196
DEL.					
WILMINGTON	133	50	4140	140	532
D.C.					
WASHINGTON	100	59	3370	144	343
FLA.					
APALACHICOLA	63	13	1282	44	505
DAYTONA BEACH	25	10	599	220	514
FORT MYERS	3	13	230	207	415
JACKSONVILLE	50	1	1407	197	286
KEY WEST	0	0	39	23	179
LAKELAND	28	3	522	107	369
MIAMI	6	1	178	24	122
ORLANDO	37	9	550	124	246
TALLAHASSEE	82	29	1596	165	430
TAMPA	30	3	541	124	455
WEST PALM BEACH	5	5	232	60	196
GA.					
ATLANTA	116	0	2536	132	594
AUGUSTA	83	11	2242	11	427
MACON	58	7	2007	5	452
SAVANNAH	54	16	1621	126	526
IDAHO.					
BOISE	155	24	5206	659	1211
LEWISTON	121	44	5066	783	964
POCATELLO	206	15	6181	749	1469
ILL.					
CAIRO	177	32	4088	785	5
CHICAGO	255	34	5674	753	78
MOLINE	261	30	6197	980	85
PEORIA	249	31	5800	823	159
ROCKFORD	267	26	6198	690	282
SPRINGFIELD	245	42	5321	738	214
IND.					
EVANSVILLE	183	14	4406	521	363
FORT WAYNE	224	2	5412	441	490
INDIANAPOLIS	214	15	5003	446	217
SOUTH BEND	235	4	5385	259	329
IOWA.					
BURLINGTON	251	30	6006	977	103
DES MOINES	278	34	6122	663	29
DUBUQUE	284	28	6638	789	210
SIOUX CITY	299	50	6908	1239	387
KANS.					
CONCORDIA	187	15	5417	827	58
DODGE CITY	133	52	4805	682	177
GOODLAND	150	68	5221	406	111
TOPEKA	109	10	5330	990	177
WICHITA	162	10	4744	825	192
KY.					
LEXINGTON	178	5	4270	352	425
LOUISVILLE	171	1	4046	184	472
LA.					
BATON ROUGE	66	7	1654	129	340
LAKE CHARLES	65	10	1638	275	274
NEW ORLEANS	53	0	1378	43	453
SHREVEPORT	75	4	2275	341	505
MAINE.					
CARIBOU	210	-104	7364	6	5
PORTLAND	195	57	5874	156	52
MD.					
BALTIMORE	117	58	3854	19	333
MASS.					
BOSTON	138	69	4537	155	105
MICH.					
ALPENA	254	40	6377	55	288
DETROIT	235	5	5528	454	288
FLINT	233	17	5824	331	139
GRAND RAPIDS	230	16	5932	338	13
HOUGHTON LAKE	271	23	6768	342	42
LANSING	226	22	5819	393	371
MARQUETTE	328	43	7022	765	663
MUSKEGON	258	11	5975	661	71
S. STE. MARIE	284	26	7431	514	91
MINN.					
DULUTH	334	17	8077	570	192
INTERNATL FALLS	385	42	9185	899	223
MINNEAPOLIS	312	26	6969	422	185
ROCHESTER	341	53	7643	1092	322
ST. CLOUD	350	46	7846	774	191
MISS.					
JACKSON	106	21	2290	245	426
MERIDIAN	109	24	2350	222	237
MO.					
COLUMBIA	205	19	4792	588	166
KANSAS CITY	202	12	5138	855	139
ST. LOUIS	209	33	4743	778	271
SPRINGFIELD	194	25	4540	736	69
MONT.					
BILLINGS	169	74	6870	1301	255
GLASGOW	276	30	8393	1331	82
GREAT FALLS	151	-106	6986	1176	200
HAVRE	183	-112	7928	1073	306
HELENA	180	77	7231	966	762
KALISPELL	213	44	7447	931	771
MILES CITY	235	31	7495	1257	126
MISSOULA	206	31	7037	943	1014
NEBR.					
GRAND ISLAND	221	7	6363	1179	453
LINCOLN	221	2	6064	981	87
NORFOLK	259	9	6618	981	209
NORTH PLATTE	186	48	6653	1315	403
OMAHA	216	3	5661	685	180
VALENTINE	209	49	6884	1144	117
NEV.					
ELY	188	49	6205	434	1123
LAS VEGAS	133	54	2276	5	673
RENO	118	64	4786	263	905
WINNEMUCCA	135	67	5136	143	1049
N.H.					
CONCORD	167	84	6086	334	319
N.J.					
ATLANTIC CITY	140	46	4322	358	15
TRENTON	126	60	4076	87	353
N. MEX.					
ALBUQUERQUE	123	27	3487	109	208
ROSWELL	120	6	3200	7	576
N.Y.					
ALBANY	176	70	5770	296	122
BINGHAMTON	202	57	5817	167	290
BUFFALO	216	36	5553	229	128
NEW YORK	147	43	4153	259	213
ROCHESTER	209	38	5451	226	120
SYRACUSE	193	52	5545	338	50
N.C.					
ASHEVILLE	122	29	3385	110	583
CHARLOTTE	96	26	2823	48	362
GREENSBORO	118	24	3333	85	562
HATTERAS	86	31	2063	163	517
RALEIGH	97	35	2867	130	703
WILMINGTON	74	21	1975	154	641
N. DAK.					
BISMARCK	315	6	8260	1079	296
FARGO	376	58	8430	1026	203
WILLISTON	298	12	8328	1079	106
OHIO					
AKRON-CANTON	188	36	5218	290	347
CINCINNATI	191	7	4683	526	618
CLEVELAND	200	24	4894	56	470
COLUMBUS	196	7	4893	272	457
DAYTON	207	3	4951	381	454
TOLEDO	236	10	5565	490	474
YOUNGSTOWN	211	20	5264	205	322
OKLA.					
OKLAHOMA CITY	122	16	3751	582	22
TULSA	137	0	3828	659	32
OREG.					
ASTORIA	104	43	4015	293	465
BURNS	184	30	6129	705	987
MEDFORD	84	64	3847	35	596
PENDLETON	117	42	5153	1032	695
PORTLAND	85	55	3996	403	566
SALEM	87	58	3969	384	556
PA.					
ALLENTOWN	150	60	4691	25	283
ERIE	226	19	5432	206	304
HARRISBURG	139	50	4189	97	603
PHILADELPHIA	121	50	4028	77	649
PITTSBURGH	191	19	5169	405	15
SCRANTON	177	47	5390	387	30
R.I.					
PROVIDENCE	149	66	4869	249	76
S.C.					
CHARLESTON	62	19	1744	160	490
COLUMBIA	88	9	2144	157	727
GREENVILLE	96	22	2814	83	355
S. DAK.					
ABERDEEN	341	47	7883	986	10
HURON	308	27	7470	1002	97
RAPID CITY	196	60	6639	1024	128
SIOUX FALLS	309	36	7247	949	4
TENN.					
CHATTANOOGA	139	12	3012	1	484
KNOXVILLE	134	7	3172	192	417
MEMPHIS	130	8	2955	142	203
NASHVILLE	158	21	3448	276	475
TEXAS.					
ABILENE	74	20	2625	333	124
AMARILLO	127	24	3951	492	132
AUSTIN	49	12	1964	394	8
BEAUMONT	56	1	1541	167	189
BROWNSVILLE	24	1	722	116	86
CORPUS CHRISTI	24	11	1030	163	153
DEL RIO	53	7	1661	241	158
EL PASO	93	5	2395	9	388
FORT WORTH	77	12	2549	446	265
GALVESTON	48	4	1314	213	237
HOUSTON	53	0	1633	325	364
LUBBOCK	98	32	3246	219	68
MIDLAND	70	9	2566	501	438
SAN ANGELO	56	2	2555	351	288
SAN ANTONIO	43	11	1652	218	176
VICTORIA	39	6	1471	345	84
WACO	72	3	2431	586	151
WICHITA FALLS	84	24	3164	620	87
UTAH					
SALT LAKE CITY	158	35	4813	109	1126
VT.					
BURLINGTON	186	91	6484	331	64
VA.					
LYNCHBURG	125	31	3745	210	370
NORFOLK	105	32	2915	17	319
RICHMOND	93	55	3367	49	379
ROANOKE	133	23	3854	291	381
WASH.					
QUILLAYUTE	130	31	4385	195	280
SEATTLE-TACOMA	92	60	3746	62	407
SPOKANE	156	49	6410	1141	976
WALLA WALLA	92	54	4472	599	564
YAKIMA	136	37	5501	733	878
W. VA.					
BECKLEY	168	26	4404	83	649
CHARLESTON	127	39	3995	190	531
HUNTINGTON	153	15	4107	681	346
PARKERSBURG	166	9	4199	233	544
WIS.					
GREEN BAY	296	15	6995	639	105
LACROSSE	259	7	6286	284	646
MADISON	273	4	6681	559	113
MILWAUKEE	266	7	6071	302	75
WYO.					
CASPER	208	45	6781	1083	819
CHEYENNE	177	68	5820	434	216
LANDER	231	20	7468	1457	1403
SHERIDAN	200	56	7294	1421	526

BASED ON 1941-70 NORMALS. + ACCUMULATION FROM JULY 1. 1978.

Agricultural Weather Facility
USDA South Bldg., Room 1248
Washington, DC 20250

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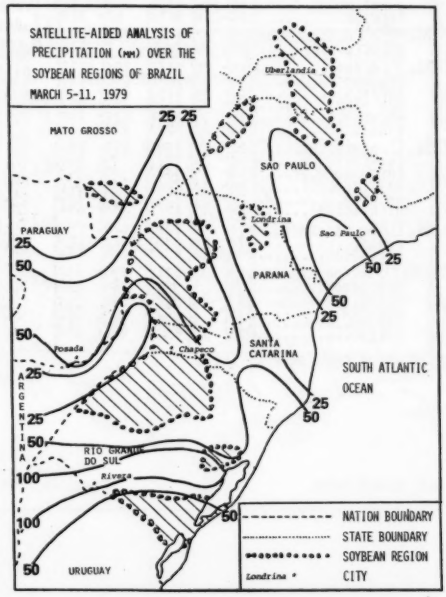
(continued from page 9)

INDIA. Rainfall in northern India continued the pattern of the last several weeks, with scattered showers dropping variable amounts of 5 to 30 mm in perhaps 50% coverage of the wheat belt. Totals for the past four weeks appear near normal, and the crop should come through in good condition. The southern half of the country was nearly rainless.

AFRICA. Only Tunisia and eastern Algeria received near-normal rains of 10 to 15 mm as western areas turned dry. However, the wheat crop should continue in good condition as a result of quite adequate rains during previous weeks. The Maize Triangle in South Africa became mostly dry, but the corn crop should be nearly mature, and thereby not need further moisture.

EUROPE. Precipitation of 15 to 40 mm over much of western Europe brought an end to two weeks of drier than normal weather. The soil moisture outlook for the approaching growing season improved markedly in northern areas. Drier weather prevailed along the Mediterranean, however, and some areas became somewhat deficient in soil moisture posing difficulties for renewed growth of winter wheat.

SOUTH AMERICA. Rainfall increased to near normal again after last week's lighter amounts (see map). Totals in excess of 50 mm in Parana would have only temporarily interfered with soybean harvesting. The continuing moderate rains in Rio Grande do Sul have provided excellent conditions for pod-filling of the varieties, and there have been reports of some renewed flowering.